SAMSUNG

SERVICE MANUAL DVD-611/611B/615/511

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SAMSUNG

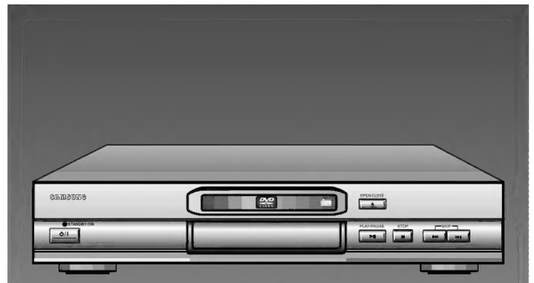
# DVD PLAYER

**DVD-611/611B/615**

**DVD-511**

# SERVICE Manual

## DVD PLAYER



**DVD-611/611B/615**

**DVD-511**

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# 1. Precautions

## 1-1 Safety Precautions

1) Before returning an instrument to the customer, always make a safety check of the entire instrument, including, but not limited to, the following items:

(1) Be sure that no built-in protective devices are defective or have been defeated during servicing. (1)Protective shields are provided to protect both the technician and the customer. Correctly replace all missing protective shields, including any remove for servicing convenience.
(2)When reinstalling the chassis and/or other assembly in the cabinet, be sure to put back in place all protective devices, including, but not limited to, nonmetallic control knobs, insulating fish papers, adjustment and compartment covers/shields, and isolation resistor/capacitor networks. Do not operate this instrument or permit it to be operated without all protective devices correctly installed and functioning.

(2) Be sure that there are no cabinet openings through which adults or children might be able to insert their fingers and contact a hazardous voltage. Such openings include, but are not limited to, excessively wide cabinet ventilation slots, and an improperly fitted and/or incorrectly secured cabinet back cover.

(3) Leakage Current Hot Check-With the instrument completely reassembled, plug the AC line cord directly into a 120V AC outlet. (Do not use a isolation transformer during this test.) Use a leakage current tester or a metering system that complies with American National Standards institute (ANSI) C101.1 Leakage Current for Appliances and Underwriters Laboratories (UL) 1270 (40.7). With the instrument's AC switch first in the ON position and then in the OFF position, measure from a known earth ground (metal water pipe, conduit, etc.) to all exposed metal parts of the instrument (antennas, handle brackets, metal cabinets, screwheads, metallic overlays, control shafts, etc.), especially any exposed metal parts that offer an electrical return path to the chassis.
Any current measured must not exceed 0.5mA. Reverse the instrument power cord plug in the outlet and repeat the test. See Fig. 1-1.
Any measurements not within the limits specified herein indicate a potential shock hazard that must be eliminated before returning the instrument to the customer.

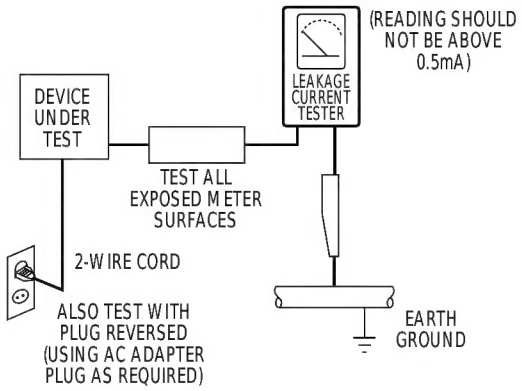

(READING SHOULD NOT BE ABOVE 0.5mA)
LEAKAGE CURRENT TESTER
DEVICE UNDER TEST
TEST ALL EXPOSED METER SURFACES
2-WIRE CORD
ALSO TEST WITH PLUG REVERSED (USING AC ADAPTER PLUG AS REQUIRED)
EARTH GROUND

Fig. 1-1 AC Leakage Test

(4) Insulation Resistance Test Cold Check-(1) Unplug the power supply cord and connect a jumper wire between the two prongs of the plug. (2) Turn on the power switch of the instrument. (3) Measure the resistance with an ohmmeter between the jumpered AC plug and all exposed metallic cabinet parts on the instrument, such as screwheads, antenna, control shafts, handle brackets, etc. When an exposed metallic part has a return path to the chassis, the reading should be between 1 and 5.2 megohm. When there is no return path to the chassis, the reading must be infinite. If the reading is not within the limits specified, there is the possibility of a shock hazard, and the instrument must be re-pared and rechecked before it is returned to the customer. See Fig. 1-2.

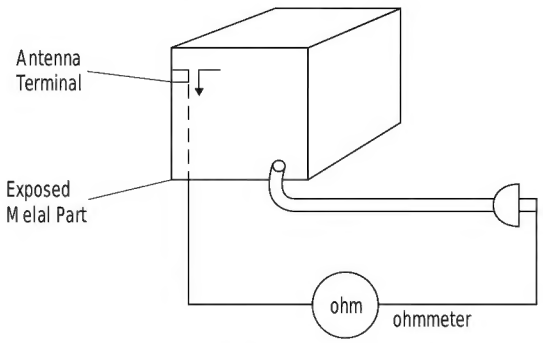



Fig. 1-2 Insulation Resistance Test

2) Read and comply with all caution and safety related notes non or inside the cabinet, or on the chassis.

3) Design Alteration Warning-Do not alter of add to the mechanical or electrical design of this instrument. Design alterations and additions, including but not limited to, circuit modifications and the addition of items such as auxiliary audio output connections, might alter the safety characteristics of this instrument and create a hazard to the user. Any design alterations or additions will make you, the service, responsible for personal injury or property damage resulting therefrom.

4) Observe original lead dress. Take extra care to assure correct lead dress in the following areas:
(1) near sharp edges, (2) near thermally hot parts (be sure that leads and components do not touch thermally hot parts), (3) the AC supply, (4) high voltage, and (5) antenna wiring. Always inspect in all areas for pinched, out-of-place, or frayed wiring, Do not change spacing between a component and the printed-circuit board. Check the AC power cord for damage.

5) Components, parts, and/or wiring that appear to have overheated or that are otherwise damaged should be replaced with components, parts and/ or wiring that meet original specifications.
Additionally, determine the cause of overheating and/or damage and, if necessary, take corrective action to remove any potential safety hazard.

6) Product Safety Notice-Some electrical and mechanical parts have special safety-related characteristics which are often not evident from visual inspection, nor can the protection they give necessarily be obtained by replacing them with components rated for higher voltage, wattage, etc. Parts that have special safety characteristics are identified by shading, an ( ⚠ )or a ( ⚠ )on schematics and parts lists. Use of a substitute replacement that does not have the same safety characteristics as the recommended replacement part might created shock, fire and/or other hazards. Product safety is under review continuously and new instructions are issued whenever appropriate.

## 1-2 Servicing Precautions

**CAUTION :** Before servicing Instruments covered by this service manual and its supplements, read and follow the Safety Precautions section of this manual.

**Note :** If unforseen circument create conflict between the following servicing precautions and any of the safety precautions, always follow the safety precautions. Remember: Safety First.

### 1-2-1 General Servicing Precautions

(1) a. Always unplug the instrument's AC power cord from the AC power source before (1) re-moving or reinstalling any component, circuit board, module or any other instrument assembly, (2) disconnecting any instrument electrical plug or other electrical connection, (3) connecting a test substitute in parallel with an electrolytic capacitor in the instrument.

b. Do not defeat any plug/socket B+ voltage interlocks with which instruments covered by this service manual might be equipped.

c. Do not apply AC power to this instrument and /or any of its electrical assemblies unless all solid-state device heat sinks are correctly installed.

d. Always connect a test instrument's ground lead to the instrument chassis ground before connecting the test instrument positive lead. Always remove the test instrument ground lead last.

**Note :** Refer to the Safety Precautions section ground lead last.

(2) The service precautions are indicated or printed on the cabinet, chassis or components. When servicing, follow the printed or indicated service precautions and service materials.

(3) The components used in the unit have a specified flame resistance and dielectric strength.
When replacing components, use components which have the same ratings. Components i-entified by shading, by(⚠) or by (⚠) in the circuit diagram are important for safety or for the characteristics of the unit. Always replace them with the exact replacement components.

(4) An insulation tube or tape is sometimes used and some components are raised above the printed wiring board for safety. The internal wiring is sometimes clamped to prevent contact with heating components. Install such elements as they were.

(5) After servicing, always check that the removed screws, components, and wiring have been installed correctly and that the portion around the serviced part has not been damaged and so on. Further, check the insulation between the blades of the attachment plug and accessible conductive parts.

### 1-2-2 Insulation Checking Procedure

Disconnect the attachment plug from the AC outlet and turn the power ON. Connect the insulation resistance meter (500V) to the blades of the attachment plug. The insulation resistance between each blade of the attachment plug and accessible conductive parts(see note) should be more than 1 Megohm.

**Note :** Accessible conductive parts include metal panels, input terminals, earphone jacks, etc.

# 1-3 ESD Precautions

## Electrostatically Sensitive Devices (ESD)

Some semiconductor (solid state) devices can be damaged easily by static electricity.
Such components commonly are called Electrostatically Sensitive Devices(ESD). Examples of typical ESD devices are integrated circuits and some field-effect transistors and semiconductor chip components. The following techniques should be used to help reduce the incidence of component damage caused by static electricity.

(1) Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed for potential shock reasons prior to applying power to the unit under test.

(2) After removing an electrical assembly equipped with ESD devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.

(3) Use only a grounded-tip soldering iron to solder or unsolder ESD devices.

(4) Use only an anti-static solder removal devices. Some solder removal devices not classified as "anti-static" can generate electrical charges sufficient to damage ESD devices.

(5) Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ESD devices.

(6) Do not remove a replacement ESD device from its protective package until immediately before your are ready to install it.(Most replacement ESD devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive materials).

(7) Immediately before removing the protective materials from the leads of a replacement ESD device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

**CAUTION :** Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.

(8) Minimize bodily motions when handling unpackaged replacement ESD devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ESD device).

## 1-4 Handling the optical pick-up

The laser diode in the optical pick up may suffer electrostatic breakdown because of potential static electricity from clothing and your body.

The following method is recommended.

(1) Place a conductive sheet on the work bench (The black sheet used for wrapping repair parts.)

(2) Place the set on the conductive sheet so that the chassis is grounded to the sheet.

(3) Place your hands on the conductive sheet(This gives them the same ground as the sheet.)

(4) Remove the optical pick up block

(5) Perform work on top of the conductive sheet. Be careful not to let your clothes or any other static sources to touch the unit.

Be sure to put on a wrist strap grounded to the sheet.
Be sure to lay a conductive sheet made of copper etc. Which is grounded to the table.

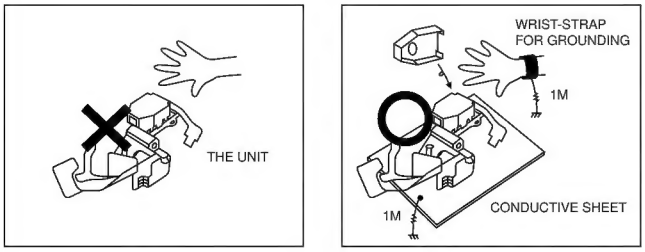



Fig.1-3

(6) Short the short terminal on the PCB, which is inside the Pick-Up ASS'Y, before replacing the Pick-Up. (The short terminal is shorted when the Pick-Up Ass'y is being lifted or moved.)

(7) After replacing the Pick-up, open the short terminal on the PCB.

# 1-5 Pick-up disassembly and reassembly

## 1-5-1 Disassembly

1) Remove the power cable.
2) Switch SW3 on deck PCB to "OFF" before removing the FPC.
   ( Inserted into Main PCB DCN1. See Fig. 1-4)
3) Disassemble the deck.
4) Disassemble the deck PCB.

## 1-5-2 Assembly

1) Replace the Pick-up.
2) Assemble the deck PCB.
3) Reassemble the deck.
4) Insert FPC into Main PCB DCN1 and switch SW3 on deck PCB to "ON". (See Fig 1-4)

**Note :** If the assembly and disassembly are not done in correct sequence, the Pick-up may be damaged.

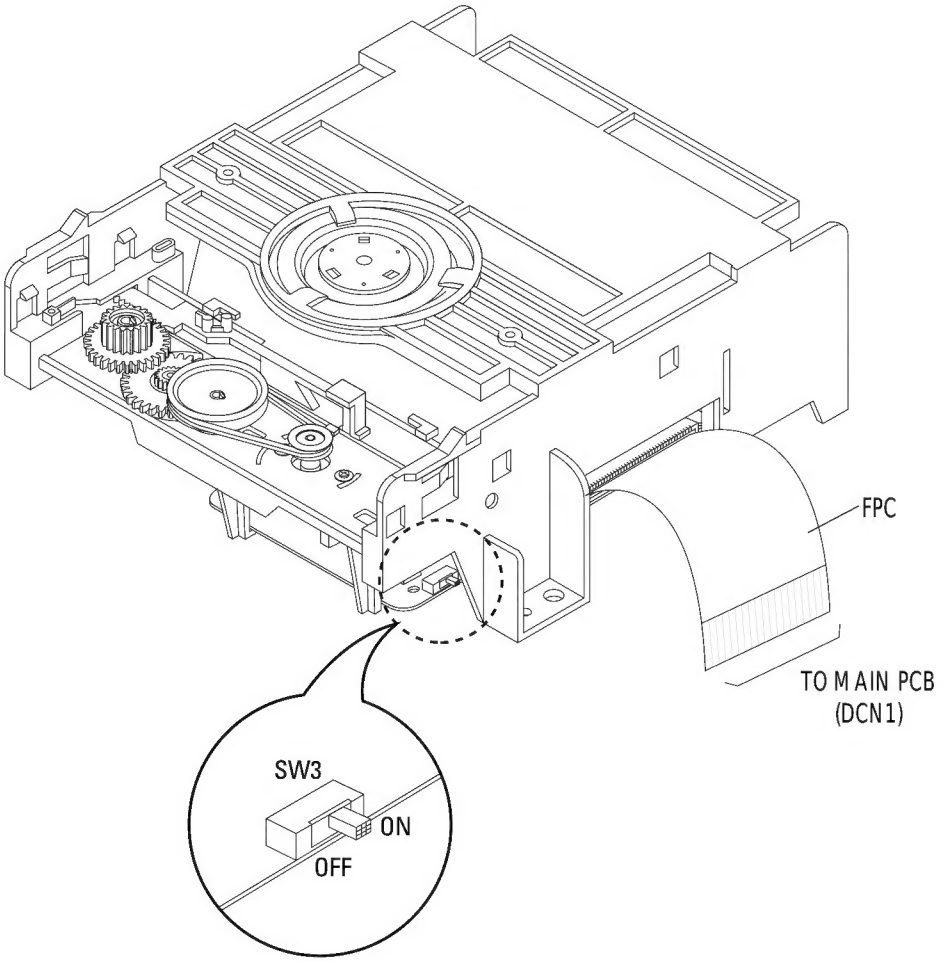
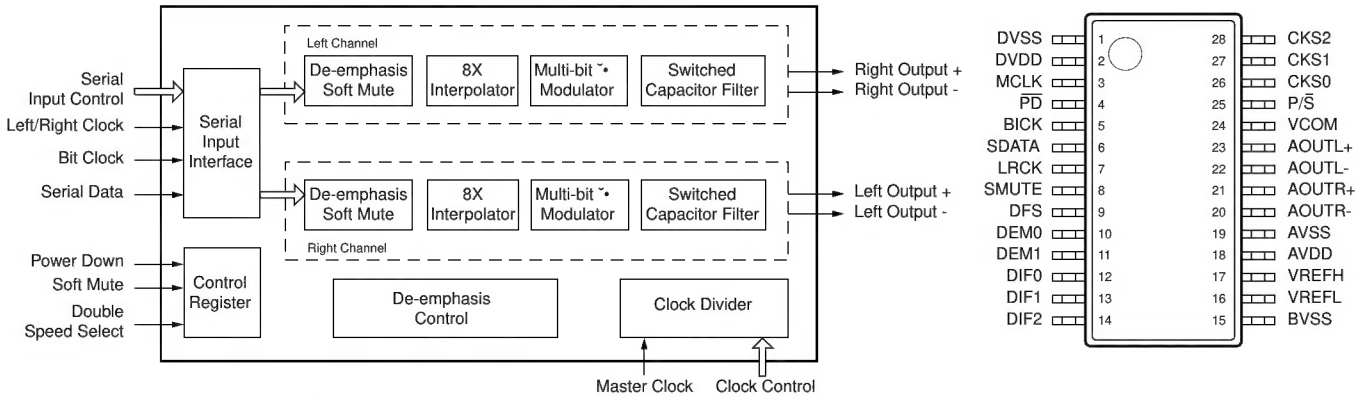



Fig. 1-4

# 2. Reference Information

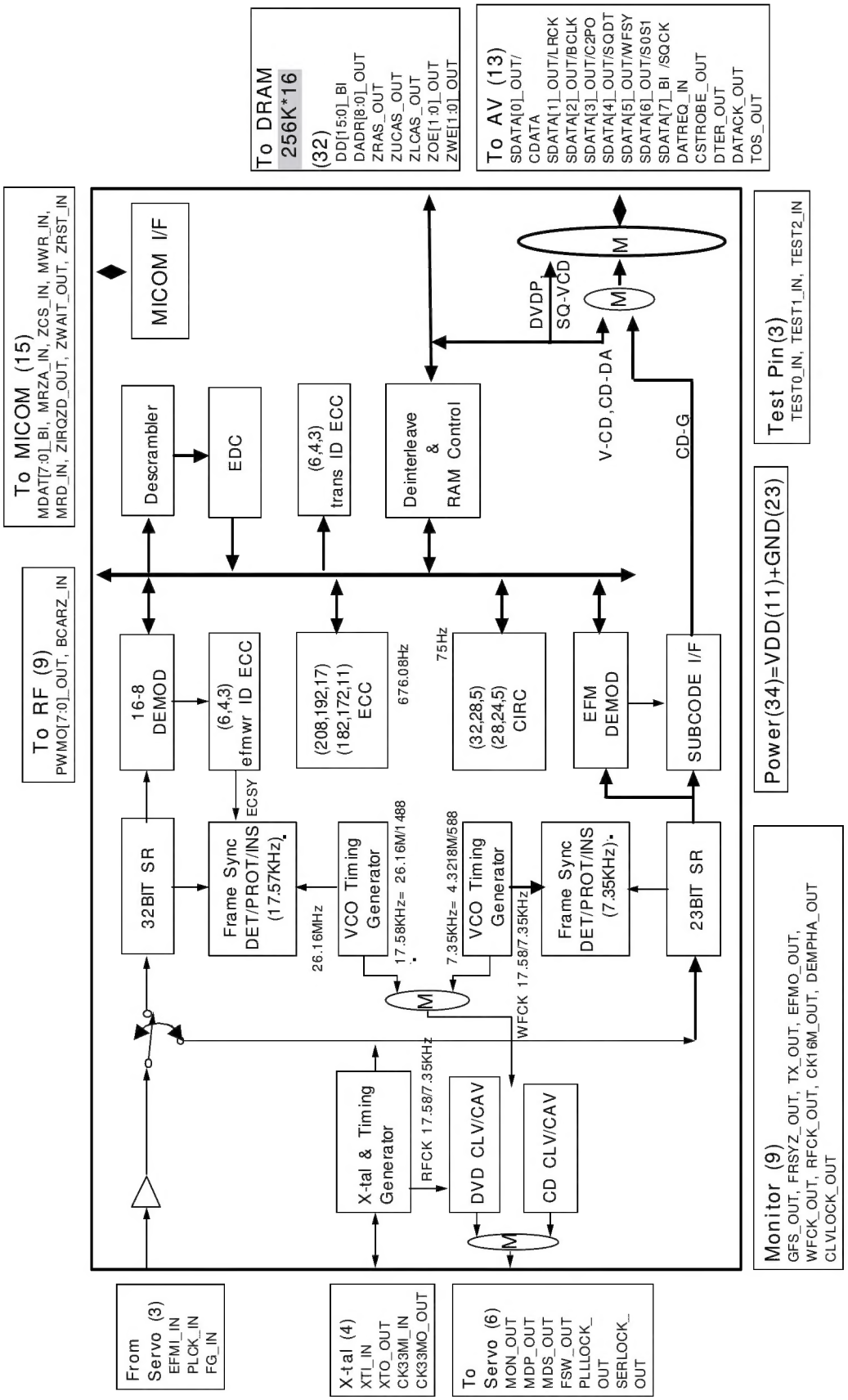
## 2-1 IC Descriptions

### 2-1-1 AIC1 (AK4393 ; Digital-to-Analog Converter)




| No. | Pin Name | I/O | Pin Function and Description |
|---|---|---|---|
| 1 | DVSS | - | Digital Ground. Digital ground is 0V. |
| 2 | DVDD | - | Digital Supply. 3.3V or 5.0V nominal. |
| 3 | MCLK | I | Master Clock Input. |
| 4 | PD | I | Power-down and Reset. When low the AK4393 is in Power-down Mode and held in reset. The AK4393 should always be reset after power-up. |
| 5 | BICK | I | Audio Serial Data Clock Input. A clock input of 64fs or more is recommended. |
| 6 | SDATA | I | Serial Data Input. |
| 7 | LRCK | I | Left/Right Clock Input. Defines the sampling rate, $F_s$. |
| 8 | SMUTE (or $\overline{CS}$) | I | Soft Mute Input or Chip Select Input. If the P/$\overline{S}$ pin (pin 25) is high, SMUTE controls the soft mute function as follows:<br>- When SMUTE goes high, the soft mute cycle is initiated.<br>- When SMUTE goes low, the output mute is slowly released.<br>If the P/$\overline{S}$ pin is low, SMUTE is the Chip Select Input for the Serial Control Mode. Chip select is active when SMUTE is low. |
| 9 | DFS | I | Double Sampling Speed Input. When low, this pin defines the Normal Speed Mode, and 128 x$F_s$ oversampling is implemented. When high, the DFS pin defines the Double Speed Mode, implemented with 64 x $F_s$ oversampling. This pin features an internal pull-down. |
| 10 | DEM0 (or CCLK) | I | De-emphasis Enable #0 or Control Data Clock Input. If the P/$\overline{S}$ pin (pin 25) is high, DEM0 is used to select the De-emphasis Mode according to Table 3. If the P/$\overline{S}$ pin os low DEM0 is the clock input for the Serial Control Mode. |
| 11 | DEM1 (or CDTI) | I | De-emphasis Enable #1 or Control Data Input. If the P/$\overline{S}$ pin (pin 25) is high, DEM1 is used to select the De-emphasis Mode according to Table 3. If the P/$\overline{S}$ pin is low, DEM1 is the control data input for the Serial Control Mode. |
| 12 | DIF0 | I | Digital Input Format Select #0. |
| 13 | DIF1 | I | Digital Input Format Select #1. |
| 14 | DIF2 | I | Digital Input Format Select #2. |
| 15 | BVSS | - | Substrate Ground Pin. Substrate ground is 0V. |
| 16 | VREFL | I | Low Level Voltage Reference Input. Normally connected to analog ground. |
| 17 | VREFH | I | High Level Voltage Reference Input. Normally connected to analog supply. |
| 18 | AVDD | - | Analog Supply. Analog supply is 5V nominal. |
| 19 | AVSS | - | Analog Ground. Analog ground is 0V. |
| 20 | AOUTR- | O | Right Channel Negative Output. |
| 21 | AOUTR+ | O | Right Channel Positive Output. |
| 22 | AOUTL- | O | Left Channel Negative Output. |
| 23 | AOUTL+ | O | Left Channel Positive Output. |
| 24 | VCOM | O | Common Voltage Output. Common voltage output is 2.6V nominal. |
| 25 | P/$\overline{S}$ | I | Parallel/Serial Control Mode Select Input. If Low, the Serial Control Mode is implemented. If High, the Parallel Control Mode is selected. This pin has an internal pull-up. |
| 26 | CKS0 | I | Master Clock Select #0. |
| 27 | CKS1 | I | Master Clock Select #1. |
| 28 | CKS2 | I | Master Clock Select #2. |

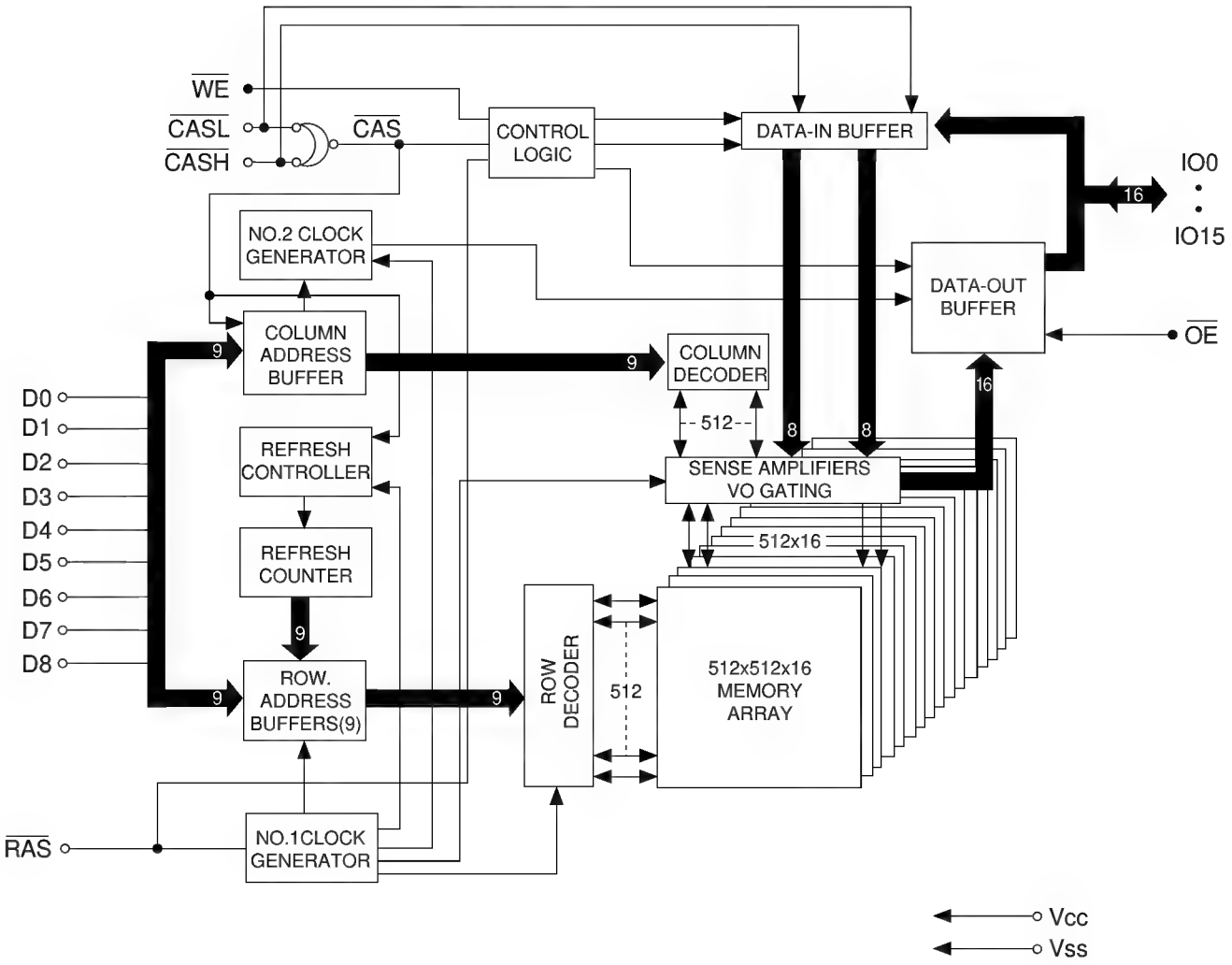
## 2-1-2 DIC1 (KS1453 ; Data Processor)



| No. | Pin Name | Description | I/O | Notes |
|---|---|---|---|---|
| 1 | DVSS | Digital GND (0 V) | | |
| 2 | ZCS_IN | Chip Select (Active Low) | I | MICOM |
| 3 | MRZA_IN | Micom Register Select (L REGISTER H fi DATA) | I | MICOM |
| 4 | DVSS | Digital GND (0 V) | | |
| 5 | MDAT7_BI | MICOM Data Bus | B | MICOM |
| 6 | MDAT6_BI | MICOM Data Bus | B | MICOM |
| 7 | MDAT5_BI | MICOM Data Bus | B | MICOM |
| 8 | MDAT4_BI | MICOM Data Bus | B | MICOM |
| 9 | MDAT3_BI | MICOM Data Bus | B | MICOM |
| 10 | MDAT2_BI | MICOM Data Bus | B | MICOM |
| 11 | MDAT1_BI | MICOM Data Bus | B | MICOM |
| 12 | MDAT0_BI | MICOM Data Bus | B | MICOM |
| 13 | DVDD | Digital Power (+5V) | | |
| 14 | XTI_IN | System Clock Input for 26.16 MHz | I | XTAL |
| 15 | XTO_OUT | System Clock Output for 26.16 MHz | O | XTAL |
| 16 | DVSS | Digital GND (0 V) | | |
| 17 | DD15_BI | DRAM Data Bus | B | DRAM |
| 18 | DD0_BI | DRAM Data Bus | B | DRAM |
| 19 | DD14_BI | DRAM Data Bus | B | DRAM |
| 20 | DD1_BI | DRAM Data Bus | B | DRAM |
| 21 | DVSS | Digital GND (0 V) | | |
| 22 | DD13_BI | DRAM Data Bus DRAM Address Bus | B | DRAM |
| 23 | DD2_BI | DRAM Data Bus | B | DRAM |
| 24 | DD12_BI | DRAM Data Bus | B | DRAM |
| 25 | DD3_BI | DRAM Data Bus | B | DRAM |
| 26 | DVDD | Digital Power (+5 V) | | |
| 27 | DD11_BI | Digital Data Bus | B | DRAM |
| 28 | DD4_BI | Digital Data Bus | B | DRAM |
| 29 | DD10_BI | Digital Data Bus | B | DRAM |
| 30 | DD5_BI | Digital Data Bus | B | DRAM |
| 31 | DVSS | Digital GND (0 V) | | |
| 32 | DD9_BI | DRAM Data Bus | B | DRAM |
| 33 | DD6_BI | DRAM Data Bus | B | DRAM |
| 34 | DD8_BI | DRAM Data Bus | B | DRAM |
| 35 | DD7_BI | DRAM Data Bus | B | DRAM |
| 36 | DVSS | Digital GND (0 V) | | |
| 37 | ZLCAS_OUT | DRAM Low Column Address Strobe | O | DRAM |
| 38 | ZUCAS_OUT | DRAM Upper Column Address Strobe | O | DRAM |
| 39 | ZWE1_OUT | DRAM Write Enable 1 (8M ONLY) | O | DRAM |
| 40 | ZWE0_OUT | DRAM Write Enable 0 (4M, 8M, 16M) | O | DRAM |
| 41 | ZOE1_OUT | DRAM Output Enable 1 (16M MODE DADR9) | O | DRAM |
| 42 | DVDD | Digital Power (+5 V) | | |
| 43 | ZOE0_OUT | DRAM Output Enable 0 | O | DRAM |
| 44 | ZRAS_OUT | DRAM Row Address Strobe | O | DRAM |
| 45 | DADR8_OUT | | O | DRAM |
| 46 | DADR7_OUT | DRAM Address Bus | O | DRAM |
| 47 | DVSS | Digital GND (0 V) | | |
| 48 | DADR0_OUT | DRAM Address Bus | O | DRAM |
| 49 | DADR6_OUT | DRAM Address Bus | O | DRAM |
| 50 | DADR1_OUT | DRAM Address Bus | O | DRAM |
| 51 | DADR5_OUT | DRAM Address Bus | O | DRAM |
| 52 | DADR2_OUT | DRAM Address Bus | O | DRAM |
| 53 | DADR4_OUT | DRAM Address Bus | O | DRAM |
| 54 | DADR3_OUT | DRAM Address Bus | O | DRAM |
| 55 | DVSS | Digital GND (0 V) | | |
| 56 | DVSS | Digital GND (0 V) | | |
| 57 | TOS_OUT | Top of Sector | O | AV Decoder |
| 58 | DATACK_OUT | Data Acknowledge Signal Output | O | AV Decoder |
| 59 | DVDD | DIGITAL Power (+5 V) | | |
| 60 | SDATA0_OUT | DVD Data/CD Data Bit Stream (CDATA) | O | AV Decoder |
| 61 | SDATA1_OUT | DVD Data/CD Data L/R Clock (LRCK) | O | AV Decoder |
| 62 | SDATA2_OUT | DVD Data/CD Data Bit Clock (BLCK) | O | AV Decoder |
| 63 | SDATA3_OUT | DVD Data/CD Data Error Flag (C2PO) | O | AV Decoder |
| 64 | SDATA4_OUT | DVD Data/Subcode Serial Data (SQDT) | O | AV Decoder |

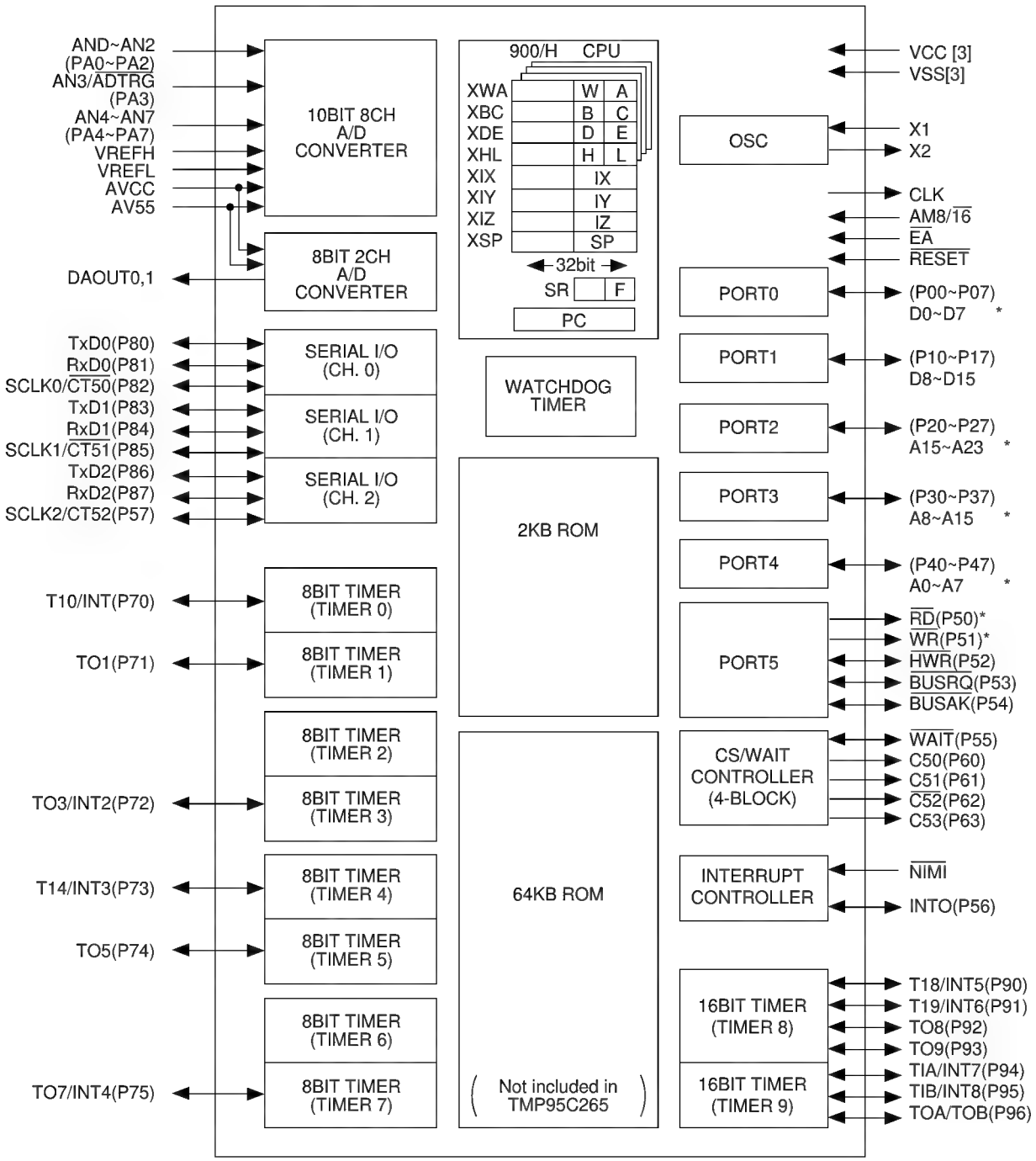
| No. | Pin Name | Description | I/O | Notes |
|---|---|---|---|---|
| 65 | SDATA5_OUT | DVD Data/Subcode Frame Sync (WFSY) | O | AV Decoder |
| 66 | SDATA6_OUT | DVD Data/Subcode Block Sync (S0S1) | O | AV Decoder |
| 67 | SDATA7_BI | DVD Data/Subcode Serial Clock (SQCK) | B | AV Decoder |
| 68 | DVSS | Digital GND (0 V) | | |
| 69 | CSTROBE_OUT | Data Strobe (Clock) Output | O | AV Decoder |
| 70 | DATREQ_IN | Data Request from A/V Decoder or ROM Decoder | I | AV Decoder |
| 71 | DTER_OUT | DVD Data Error Output | O | AV Decoder |
| 72 | DVSS | Digital GND (0 V) | | |
| 73 | PWMO7_OUT | PWM Output Signal | O | RF |
| 74 | PWMO6_OUT | PWM Output Signal | O | RF |
| 75 | PWMO5_OUT | PWM Output Signal | O | RF |
| 76 | PWMO4_OUT | PWM Output Signal | O | RF |
| 77 | DVDD | Digital Power (+5 V) | | |
| 78 | PWMO3_OUT | PWM Output Signal | O | RF |
| 79 | PWMO2_OUT | PWM Output Signal | O | RF |
| 80 | PWMO1_OUT | PWM Output Signal | O | RF |
| 81 | PWMO0_OUT | PWM Output Signal | O | RF |
| 82 | DVSS | Digital GND (0 V) | | |
| 83 | DVSS | Digital GND (0 V) | | |
| 84 | DVSS | Digital GND (0 V) | | |
| 85 | DVDD | DIGITAL Power (+5 V) | | |
| 86 | DVDD | DIGITAL Power (+5 V) | | |
| 87 | DVSS | Digital GND (0 V) | | |
| 88 | DVSS | Digital GND (0 V) | | |
| 89 | DVSS | Digital GND (0 V) | | |
| 90 | DVSS | Digital GND (0 V) | | |
| 91 | FRSYZ_OUT | Frame Sync Out | O | Monitor |
| 92 | TX_OUT | Digital Out | O | Monitor |
| 93 | GFS_OUT | Good Frame Sync Detection State Output (OK at H) | O | Monitor |
| 94 | DVSS | Digital GND (0 V) | | |
| 95 | CK33MI_IN | System Clock Input for 33.8688 MHz | I | X-tal |
| 96 | CK33MO_OUT | System Clock Output for 33.8688 MHz | O | X-tal |
| 97 | DVDD | Digital Power (+5 V) | | |
| 98 | TEST0_IN | Test Mode Selection Terminal | I | |
| 99 | TEST1_IN | Test Mode Selection Terminal | I | |
| 100 | TEST2_IN | Test Mode Selection Terminal | I | |
| 101 | EFMO_OUT | EFM Out | O | Monitor |
| 102 | WFCK_OUT | Write Frame Pulse | O | Monitor |
| 103 | RFCK_OUT | Reference Frame Pulse | O | Monitor |
| 104 | PLCK_IN | Phase Locked Clock | I | Servo |
| 105 | DVSS | Digital GND (0 V) | | |
| 106 | PLLLOCK_OUT | Lock Signal for PLL | O | Servo |
| 107 | CLVLOCK_OUT | Lock Signal for CLV | O | Monitor |
| 108 | SERLOCK_OUT | Lock Signal for SERVO | O | Servo |
| 109 | MDP_OUT | Spindle Motor Phase Control Signal (3-STATE) | O | Servo |
| 110 | MDS_OUT | Spindle Motor Speed Control Signal (3-STATE) | O | Servo |
| 111 | DVSS | Digital GND (0 V) | | |
| 112 | DVSS | Digital GND (0 V) | | |
| 113 | MON_OUT | Spindle Motor Output Filter Switching Output | O | Servo |
| 114 | FG_IN | Reference Signal for CAV | I | Servo |
| 115 | FSW_OUT | Spindle Motor Output Filter Switching Output (3-STATE) | O | Servo |
| 116 | EFMI_IN | EFM/EFM+ Signal Input Notes | I | Servo |
| 117 | DVDD | Digital Power (+5 V) | | |
| 118 | DVDD | Digital Power (+5 V) | | |
| 119 | DVDD | Digital Power (+5 V) | | |
| 120 | CK16M_OUT | CK33Ms 2 Division Clock / 16.9344 MHz | O | Monitor |
| 121 | DEMPHA_OUT | HIGH, when on Deemphasis | O | Monitor |
| 122 | BCARZ_IN | BCA Input Signal | I | RF |
| 123 | DVSS | Digital GND (0 V) | | |
| 124 | ZRST_IN | Hardware Reset (Active Low) | I | MICOM |
| 125 | ZWAIT_OUT | Micom Read / Write Access Wait (Wait at L) | O | MICOM |
| 126 | ZIRQZD_OUT | Interrupt Request to Micom | O | MICOM |
| 127 | MRD_IN | Micom Read Strobe (Active Low) | I | MICOM |
| 128 | MWR_IN | Micom Write Strobe (Active Low) | I | MICOM |

## 2-1-3 DIC2 (KM416C254D ; CMOS 4M DRAM)



| PIN NO. | SYM. | TYPE | DESCRITION |
|---|---|---|---|
| 16~19, 22~26 | A0~A8 | Input | Address Input |
| 14 | $\overline{RAS}$ | Input | Row Address Strobe |
| 28 | $\overline{CASH}$ | Input | Column Address Strobe/Upper Byte Control |
| 29 | $\overline{CASL}$ | Input | Column Address Strobe/Lower Byte Control |
| 13 | $\overline{WE}$ | Input | Write Enable |
| 27 | $\overline{OE}$ | Input | Output Enable |
| 2~5, 7~10, 31~34, 36~39 | I/O0~I/O15 | Input/Output | Data Input/Output |
| 1, 6, 20 | Vcc | Supply | Power, 5V |
| 21, 35, 40 | Vss | Ground | Ground |
| 11, 12, 15, 30 | NC | - | No Connect |

## 2-1-4 MIC1 (TMP95C265 ; Main Micom)

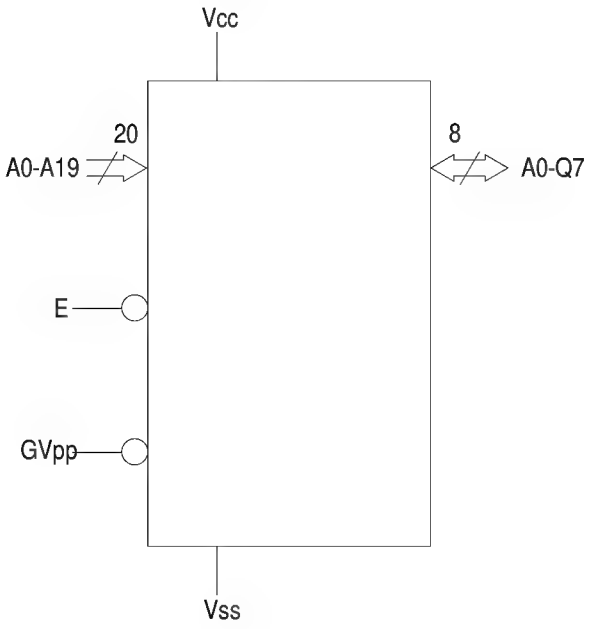


| NO | PORT NAME | ASSIGNED NAME | DESCRIPTION | TYPE | REMARK |
|---|---|---|---|---|---|
| 1 | VREFL | DGND | A/D Ref Input(L) | I | DGND |
| 2 | AVss | DGND | A/D Ref Input | - | DGND |
| 3 | AVcc | 5D | A/D VCC Input | - | 5D |
| 4 | DAOUT0 | MTP1 | | 0 | NC |
| 5 | DAOUT1 | MPT2 | | 0 | NC |
| 6 | /NMI | - | PULL-UP | I | |
| 7 | P53 | CSB | D. Servo IC Chip Select | 0 | KS1452(10) |
| 8 | P54/BUSAK | MTP3 | | 0 | |
| 9 | /WAIT | /MWAIT | /Wait(ZiVA, DSP) | I | /MWait |
| 10 | P56 | DVD/CD | DVD/CD RF AGC Gain Select | 0 | RF(KS1461) |
| 11 | SCLK2 | SCLK | Serial Data Clock | I | FRONT |
| 12 | P80/TXD0 | MD | RF Contrl Data | 0 | KS1461(69) |
| 13 | P81/RXD0 | STB | RF Data Latch | I/0 | KS1461(71) |
| 14 | P82/SCLKO | MC | RF Control Clock | 0 | KS1461(70) |
| 15 | P83/TXD1 | MTP5 | | 0 | NC |
| 16 | P84/RXD1 | MTP6 | | 0 | NC |
| 17 | P85/SCLK1 | MTP4 | | 0 | NC |
| 18 | TXD2 | RXD | Serial Data Output | 0 | FRONT |
| 19 | RXD2 | TXD | Serial Data Input | I | FRONT |
| 20 | CSO | /CSO | EPROM(M27C801) Select | 0 | EPROM(M27C801) |
| 21 | CS1 | /CS1 | SRAM(KM681000) Select | 0 | SRAM(KM681000) |
| 22 | CS2 | /DVD1CS | AVDecoder(ZiVA4) Select | 0 | AVDecoder(ZiVA4) |
| 23 | CS3 | /DSPCS | Data Processor(KS1453) Select | 0 | Data Processor(KS1453) |
| 24 | CLK | CLK | CLOCK OUTPUT (System Clock-2) | 0 | fc/2 |
| 25 | Vcc | 5D | | - | VCC |
| 26 | Vss | GDND | GND | - | GND |
| 27 | X1 | X1 | High Frequency OSC in | I | 20MHz |
| 28 | X2 | X2 | High frequency OSC out | 0 | |
| 29 | /EA | /EA | Internal ROM Less Mode | I | GND |
| 30 | /REST | /MRST | Master reset from FRONT | I | FRONT, IC |
| 31 | INT1 | SRQ | Interrupt from Front Micom | I | FRONT |
| 32 | P71 | RRQ | Request to Front Micom | 0 | FRONT |
| 33 | P72 | SCL | EEPROM CLOCK | 0 | KS24C020(6) |
| 34 | P73 | SDA | EEPROM DATA I/O | 0 | KS24C020(5) |
| 35 | P74 | OPEN | Tray Out Motor Control Output | 0 | DRIVER(0PIN-, 16) |
| 36 | P75 | CLOSE | Tray In Motor Control Output | 0 | DRIVER(0PIN-, 17) |
| 37 | INT5 | FGINT | Interrupt from Spindle Motor FG | I | DRIVER(FG, 2) |
| 38 | P91 | ACT MUTE | Driver IC MUTE(Actuator) | 0 | DRIVER(MUTE4, 37) |
| 39 | P92 | M/D MUTE | Driver IC MUTE(Spindle) | 0 | DRIVER(MUTE3, 38) |
| 40 | P93 | ZRST | DSP H/W reset | 0 | KS1453(124) |
| 41 | INT7 | /DVDINT | Interrupt from AV-DEC | I | INV(ZiVA-4(51)) |
| 42 | INT8 | /DSPINT | Interrupt from DSP | I | INV(KS1453(126)) |
| 43 | P96 | ZIVA RST | AV Decoder Reset(Active H:4.0, L:4.1) | 0 | ZiVA-4(52) |
| 44 | Vcc | 5D | | | |
| 45 | D0 | HAD0 | Data 0 | I/0 | |
| 46 | D1 | HAD1 | Data 1 | I/0 | |
| 47 | D2 | HAD2 | Data 2 | I/0 | |
| 48 | D3 | HAD3 | Data 3 | I/0 | |
| 49 | D4 | HAD4 | Data 4 | I/0 | |
| 50 | D5 | HAD5 | Data 5 | I/0 | |

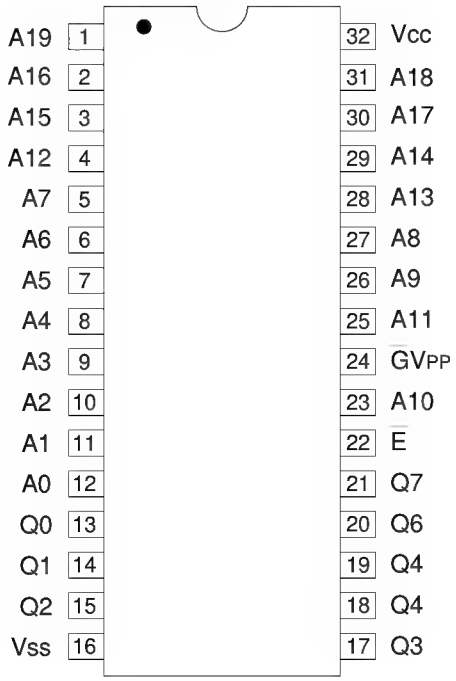
| NO | PORT NAME | ASSIGNED NAME | DESCRIPTION | TYPE | REMARK |
|---|---|---|---|---|---|
| 51 | D6 | HAD6 | Data6 | I/0 | |
| 52 | D7 | HAD7 | Data7 | I/0 | |
| 53 | P10 | CLSW | Close Switch | I | DECK |
| 54 | P11 | OPSW | Open Swithc | I | DECK |
| 55 | P12 | MTP8 | Reserved I/0 | 0 | NC |
| 56 | P13 | MTP9 | Reserved I/0 | 0 | NC |
| 57 | P14 | MTP10 | Reserved I/0 | 0 | NC |
| 58 | P15 | MTP11 | Reserved I/0 | 0 | NC |
| 59 | P16 | MTP12 | Reserved I/0 | 0 | NC |
| 60 | P17 | MTP13 | Reserved I/0 | 0 | NC |
| 61 | AM8/16 | AM8 | Address Mode(H:8 BIT MODE) | I | VCC |
| 62 | Vss | DGND | | - | GND |
| 63 | Vcc | 5D | | - | VCC |
| 64 | A23 | HA23 | SERVO /RD Strobe Mask Signal | 0 | 74HCOO(5) |
| 65 | P26/A22 | MRP14 | Reserved Address Port | 0 | NC |
| 66 | P25/A21 | MRP15 | Reserved Address Port | 0 | NC |
| 67 | P24/A20 | MRP16 | Reserved Address Port | 0 | NC |
| 68 | A19 | HA19 | Address 19 | 0 | EPROM, SRAM ADDRESS |
| 69 | A18 | HA18 | Address 18 | 0 | EPROM, SRAM ADDRESS |
| 70 | A17 | HA17 | Address 17 | 0 | EPROM, SRAM ADDRESS |
| 71 | A16 | HA16 | Address 16 | 0 | EPROM, SRAM ADDRESS |
| 72 | A15 | HA15 | Address 15 | 0 | EPROM, SRAM ADDRESS |
| 73 | A14 | HA14 | Address 14 | 0 | EPROM, SRAM ADDRESS |
| 74 | A13 | HA13 | Address 13 | 0 | EPROM, SRAM ADDRESS |
| 75 | A12 | HA12 | Address 12 | 0 | EPROM, SRAM ADDRESS |
| 76 | A11 | HA11 | Address 11 | 0 | EPROM, SRAM ADDRESS |
| 77 | A10 | HA10 | Address 10 | 0 | EPROM, SRAM, Zlva Adrs |
| 78 | A9 | HA9 | Address 9 | 0 | EPROM, SRAM, Zlva Adrs |
| 79 | A8 | HA8 | Address 8 | 0 | EPROM, SRAM, Zlva Adrs |
| 80 | A7 | HA7 | Address 7 | 0 | EPROM, SRAM ADDRESS |
| 81 | A6 | HA6 | Address 6 | 0 | EPROM, SRAM ADDRESS |
| 82 | A5 | HA5 | Address 5 | 0 | EPROM, SRAM ADDRESS |
| 83 | A4 | HA4 | Address 4 | 0 | EPROM, SRAM ADDRESS |
| 84 | A3 | HA3 | Address 3 | 0 | EPROM, SRAM ADDRESS |
| 85 | A2 | HA2 | Address 2 | 0 | EPROM, SRAM ADDRESS |
| 86 | A1 | HA1 | Address 1(SERVO DAB) | 0 | EPROM, SRAM ADDRESS |
| 87 | A0 | HA0 | Address 0(DSP DAB) | 0 | EPROM, SRAM ADDRESS |
| 88 | /RD | /RD | /Read Strobe | 0 | /Read |
| 89 | /WR | /WR | /Write Strobe | 0 | /Write |
| 90 | P52 | RSTB | RF&Servo IC Reset | 0 | KS1461 (73), KS1452 (9) |
| 91 | Vss | DGND | | - | DGND |
| 92 | PA0 | RFRP | Tracking Lock monitir from SERVO | I | KS1452 (7) |
| 93 | PA1 | TILTO | Monitor signal | I | KS1452 (69) |
| 94 | PA2 | MTP17 | Reserved I | I | NC |
| 95 | PA3 | SENSE | SENSE monitor from SERVO | I | KS1452 (22) |
| 96 | PA4 | FR | Spindle direcrion from SP Driver | I | BA6849FP (20) |
| 97 | PA5 | SLOCK | LOCK monitor from DSP | I | KS1453 (108) |
| 98 | PA6 | FOKB | Focus lock monitor from RF | I | KS1461 (48) |
| 99 | PA7 | RFO | RF sum signal (Analog Lnput) | I | RFO |
| 100 | VREFH | 5D | A/D Ref Input (H) | I | 5D |

## 2-1-5 MIC2 (M27C801 ; 8Mbit (1Mbx8) UVEPROM and OTP EPROM)

LOGIC DIAGRAM



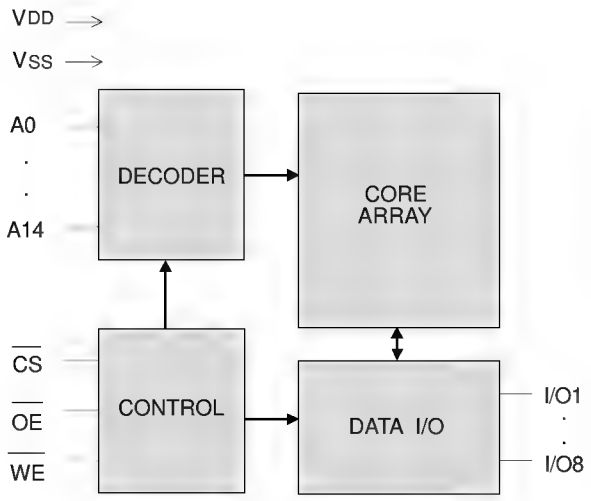

TOP VIEW



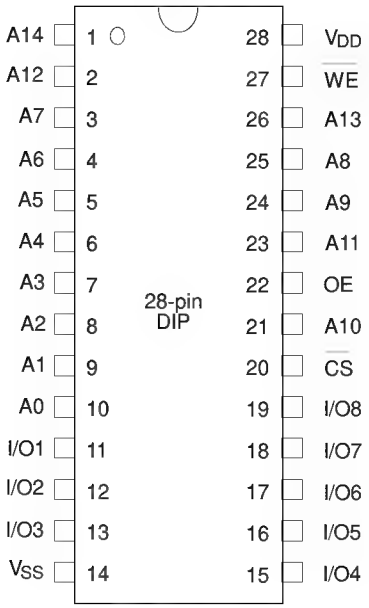

| NAME | FUNCTION |
|---|---|
| A0-A19 | Address Inputs |
| Q0-Q7 | Data Outputs |
| $\overline{E}$ | Chip Enable |
| OVpp | Output Enable/Program Supply |
| Vcc | Supply Voltage |
| Vss | Ground |

## 2-1-6 MIC3 (W24256A ; 32K x 8 High Speed CMOS Static RAM)

BLOCK DIAGRAM

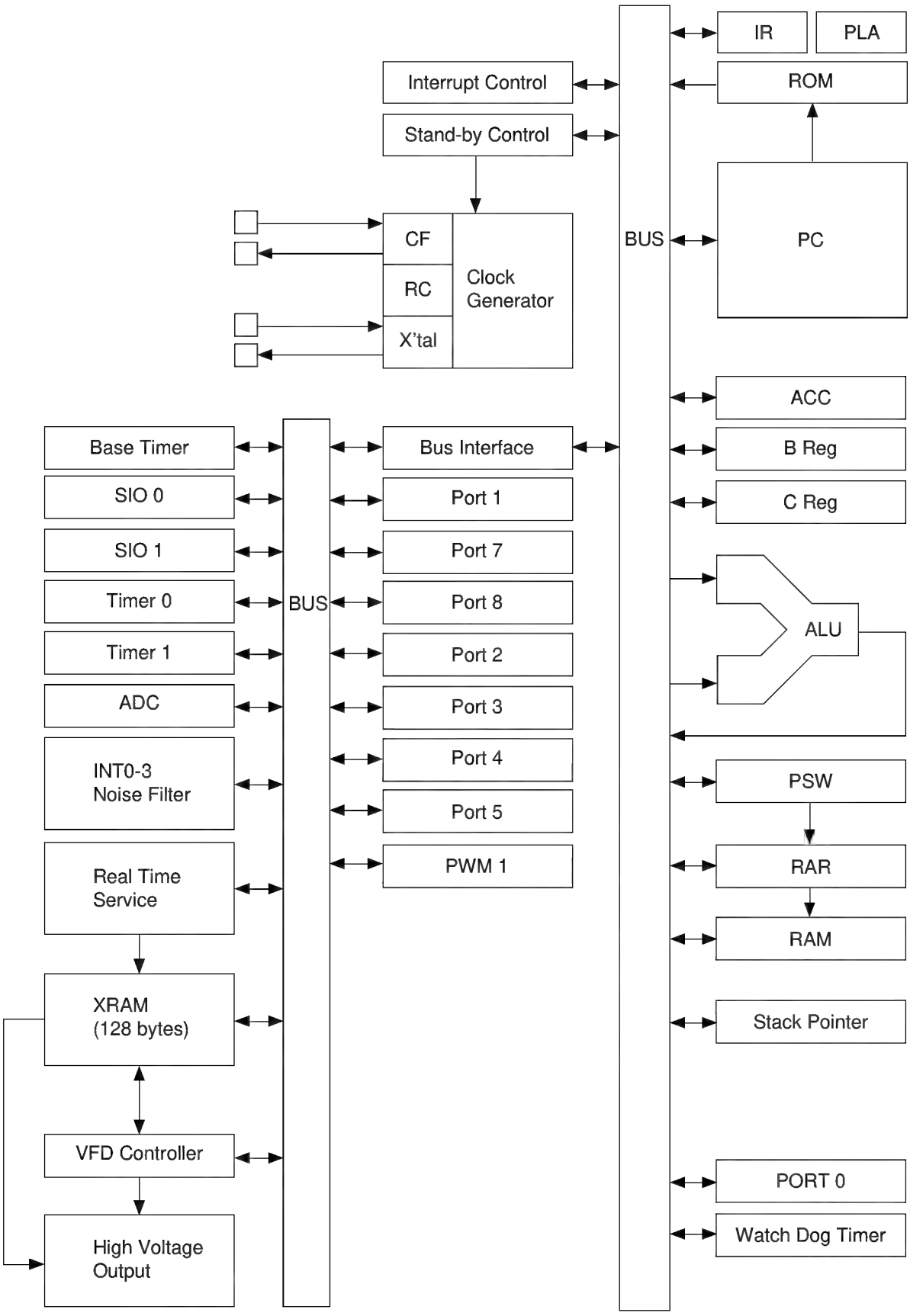



TOP VIEW




| SYMBOL | DESCRIPTION |
|---|---|
| A0 - A14 | Address Inputs |
| I/O1 - I/O8 | Data Inputs/Outputs |
| $\overline{CS}$ | Chip Select Input |
| $\overline{WE}$ | Write Enable Input |
| $\overline{OE}$ | Output Enable Input |
| V DD | Power Supply |
| V SS | Ground |

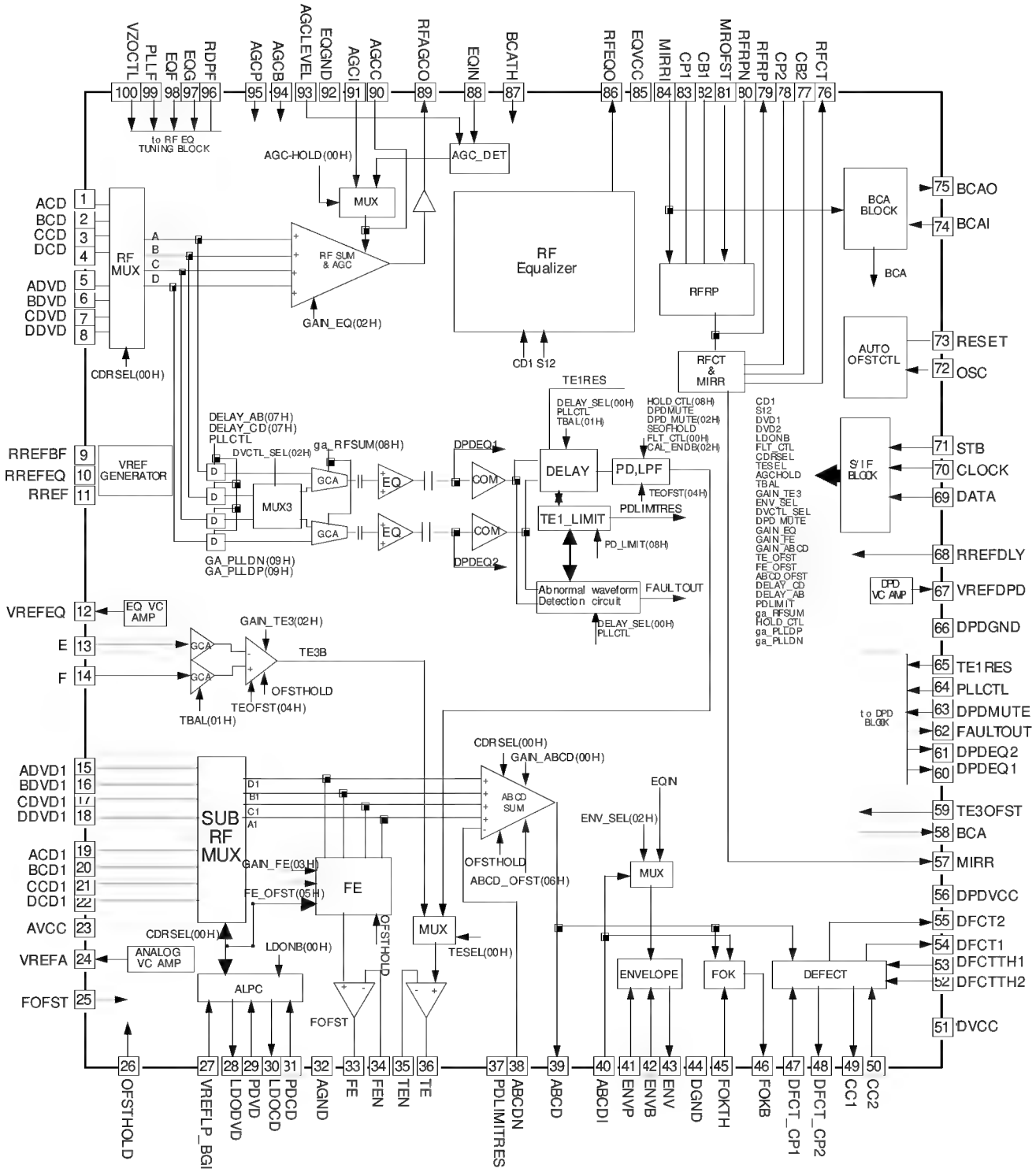
## 2-1-7 FIC1 (LC86P6232 ; Front Micom)



| NO | PORT NAME | TYPE | ASSIGNED NAME | DESCRIPTION | REMARK |
|---|---|---|---|---|---|
| 1 | P52 | 0 | MRST | Front end reset | RESET |
| 2 | PWM1 | - | TP1 | | NC |
| 3 | P20 | 0 | CS1 | Chip Select 1 | AK4393 |
| 4 | P21 | 0 | CCLK | Control Data Clock | AK4393/AK4356 |
| 5 | P22 | 0 | CDTI | Control Data | AK4393/AK4356 |
| 6 | P23 | 0 | CS2 | Chip Select 2 | AK4356 |
| 7 | P24 | 0 | DARST | PD(Power Down) | AK4393 |
| 8 | P25 | 0 | DARST 1 | PD(Power Down) | AK4356 |
| 9 | P26 | 0 | VMUTE0 | BA7660 MUTE(VIC2) | VIDEO(RESERVED) |
| 10 | P27 | 0 | VMUTE1 | BA7660 MUTE(VIC1) | VIDEO(RESERVED) |
| 11 | TEST1 | - | TP4 | | NC |
| 12 | *RES | I | *RES | Reset | |
| 13 | XT1 | - | GND | Low Frequency OSC in | |
| 14 | XT2 | - | TP5 | Low Frequency OSC out | |
| 15 | VSS | - | GND | | |
| 16 | CF1 | I | - | High Frequency OSC in | |
| 17 | CF2 | 0 | - | High Frequency OSC out | |
| 18 | VDD | - | VDD | | |
| 19 | ANO/P8 0 | I | ECHO_VR | ECHO volume A/D input | KARAOKE |
| 20 | AN1/P8 1 | I | MIC DET | MIC detect | KARAOKE |
| 21 | AN2/P8 2 | - | TP19 | | NC |
| 22 | AN3/P8 3 | I | KEY0 | KEY SCAN | TACT SW |
| 23 | AN4/P8 4 | I | KEY1 | KEY SCAN | TACT SW |
| 24 | AN5/P8 5 | I | KEY2 | KEY SCAN | TACT SW |
| 25 | AN6/P8 6 | - | NC | | |
| 26 | AN7/P8 7 | - | NC | | |
| 27 | P70/IN TO | I | RRQ | Request to Front Micom | MAIN MICOM |
| 28 | P71/IN T1 | - | TP25 | | NC |
| 29 | P72/IN T2 | - | TP26 | | NC |
| 30 | P73/IN T3 | I | REMOCON | REMOCON data in | REMOCON EYE |
| 31 | S0/T0 | 0 | GRID11 | FLT GRID CONTROL | FLT |
| 32 | S1/T1 | 0 | GRID10 | FLT GRID CONTROL | FLT |
| 33 | S2/T2 | 0 | GRID9 | FLT GRID CONTROL | FLT |
| 34 | S3/T3 | 0 | GRID8 | FLT GRID CONTROL | FLT |
| 35 | S4/T4 | 0 | GRID7 | FLT GRID CONTROL | FLT |
| 36 | S5/T5 | 0 | GRID6 | FLT GRID CONTROL | FLT |
| 37 | S6/T6 | 0 | GRID5 | FLT GRID CONTROL | FLT |
| 38 | S7/T7 | 0 | GRID4 | FLT GRID CONTROL | FLT |
| 39 | S8/T8 | 0 | GRID3 | FLT GRID CONTROL | FLT |
| 40 | S9/T9 | 0 | GRID2 | FLT GRID CONTROL | FLT |
| 41 | S10/T10 | 0 | GRID1 | FLT GRID CONTROL | FLT |
| 42 | S11/T11 | 0 | | | |
| 43 | S12/T12 | 0 | SEG1 | FLT SEGMENT CONTROL | FLT |
| 44 | S13/T13 | 0 | SEG2 | FLT SEGMENT CONTROL | FLT |
| 45 | S14/T14 | 0 | SEG3 | FLT SEGMENT CONTROL | FLT |
| 46 | S15/T15 | 0 | SEG4 | FLT SEGMENT CONTROL | FLT |
| 47 | VOD | - | +5V | | |
| 48 | VP | - | -28V | | |
| 49 | S16 | 0 | SEG5 | FLT SEGMENT CONTROL | FLT |
| 50 | S17 | 0 | SEG6 | FLT SEGMENT CONTROL | FLT |

| NO | PORT NAME | TYPE | ASSIGNED NAME | DESCRIPTION | REMARK |
|---|---|---|---|---|---|
| 51 | S18 | - | SEG7 | FLT SEGMENT CONTROL | FLT |
| 52 | S19 | - | SEG8 | FLT SEGMENT CONTROL | FLT |
| 53 | S20 | - | SEG9 | FLT SEGMENT CONTROL | FLT |
| 54 | S21 | 0 | SEG10 | FLT SEGMENT CONTROL | FLT |
| 55 | S22 | 0 | SEG11 | FLT SEGMENT CONTROL | FLT |
| 56 | S23 | 0 | SEG12 | FLT SEGMENT CONTROL | FLT |
| 57 | S24 | 0 | SEG13 | FLT SEGMENT CONTROL | FLT |
| 58 | S25 | 0 | SEG14 | FLT SEGMENT CONTROL | FLT |
| 59 | S26 | 0 | SEG15 | FLT SEGMENT CONTROL | FLT |
| 60 | S27 | 0 | SEG16 | FLT SEGMENT CONTROL | FLT |
| 61 | S28 | 0 | SEG17 | FLT SEGMENT CONTROL | FLT |
| 62 | S29 | 0 | SEG18 | FLT SEGMENT CONTROL | FLT |
| 63 | S30 | 0 | SEG19 | FLT SEGMENT CONTROL | FLT |
| 64 | S31 | 0 | SEG20 | FLT SEGMENT CONTROL | FLT |
| 65 | P00 | I | MODE4 | HARDWARE MODE SELECT | MARKET CODE |
| 66 | P01 | I | MODE3 | HARDWARE MODE SELECT | MARKET CODE |
| 67 | P02 | I | MODE2 | HARDWARE MODE SELECT | MARKET CODE |
| 68 | P03 | I | MODE1 | HARDWARE MODE SELECT | MARKET CODE |
| 69 | P04 | I | MODE0 | HARDWARE MODE SELECT | MARKET CODE |
| 70 | P05 | - | TP10 | | NC |
| 71 | P06 | - | TP11 | | NC |
| 72 | P07 | -- | | | NC |
| 73 | P10/S0 0 | 0 | TXD | SERIAL DATA OUT | SERIAL DATA OUT |
| 74 | P11/S1 0 | I | RXD | SERIAL DATA IN | SERIAL DATA IN |
| 75 | P12/SC K0 | 0 | SCLK | SERIAL CLOCK | SERIAL CLOCK |
| 76 | P13/S0 1 | - | TP12 | | NC |
| 77 | P14/SI 1 | - | TP13 | | NC |
| 78 | P15/SC K1 | - | TP14 | | NC |
| 79 | P16/BU Z | - | TP15 | | NC |
| 80 | P17/PW MO | - | TP16 | | NC |
| 81 | P30 | I | S1 | SHUTTLE DATA | JOG/SHUTTLE |
| 82 | P31 | I | S2 | SHUTTLE DATA | JOG/SHUTTLE |
| 83 | P32 | I | S3 | SHUTTLE DATA | JOG/SHUTTLE |
| 84 | P33 | I | S4 | SHUTTLE DATA | JOG/SHUTTLE |
| 85 | P34 | I | J1 | JOG DATA | JOG/SHUTTLE |
| 86 | P35 | I | J2 | JOG DATA | JOG/SHUTTLE |
| 87 | P36 | I | AT | VIDEO OUT SEL. | VIDEO SELECT(OPEN) |
| 88 | P37 | I | AD | VIDEO OUT SEL. | VIDEO SELECT |
| 89 | VSS | - | +5V | | |
| 90 | VDD | - | GND | | |
| 91 | P40 | 0 | RGBCTL | SCART CONTROL | SCART JACK |
| 92 | P41 | 0 | SCON_B | SCART CONTROL | SCART JACK |
| 93 | P42 | - | TP28 | | NC |
| 94 | P43 | 0 | WIDE | SCART CONTROL | SCART JACK |
| 95 | P44 | 0 | SRQ | request to main micom | NC |
| 96 | P45 | 0 | SAVE | POWER SAVE MODE | POWER |
| 97 | P46 | 0 | AMUTE1 | REAR MUTE | AUDIO |
| 98 | P47 | 0 | AMUTE0 | FRONT MUTE | AUDIO |
| 99 | P50 | 0 | LED | STANDBY LED | LED |
| 100 | P51 | 0 | ON/OFF | POWER ON/OFF CONTROL | POWER |

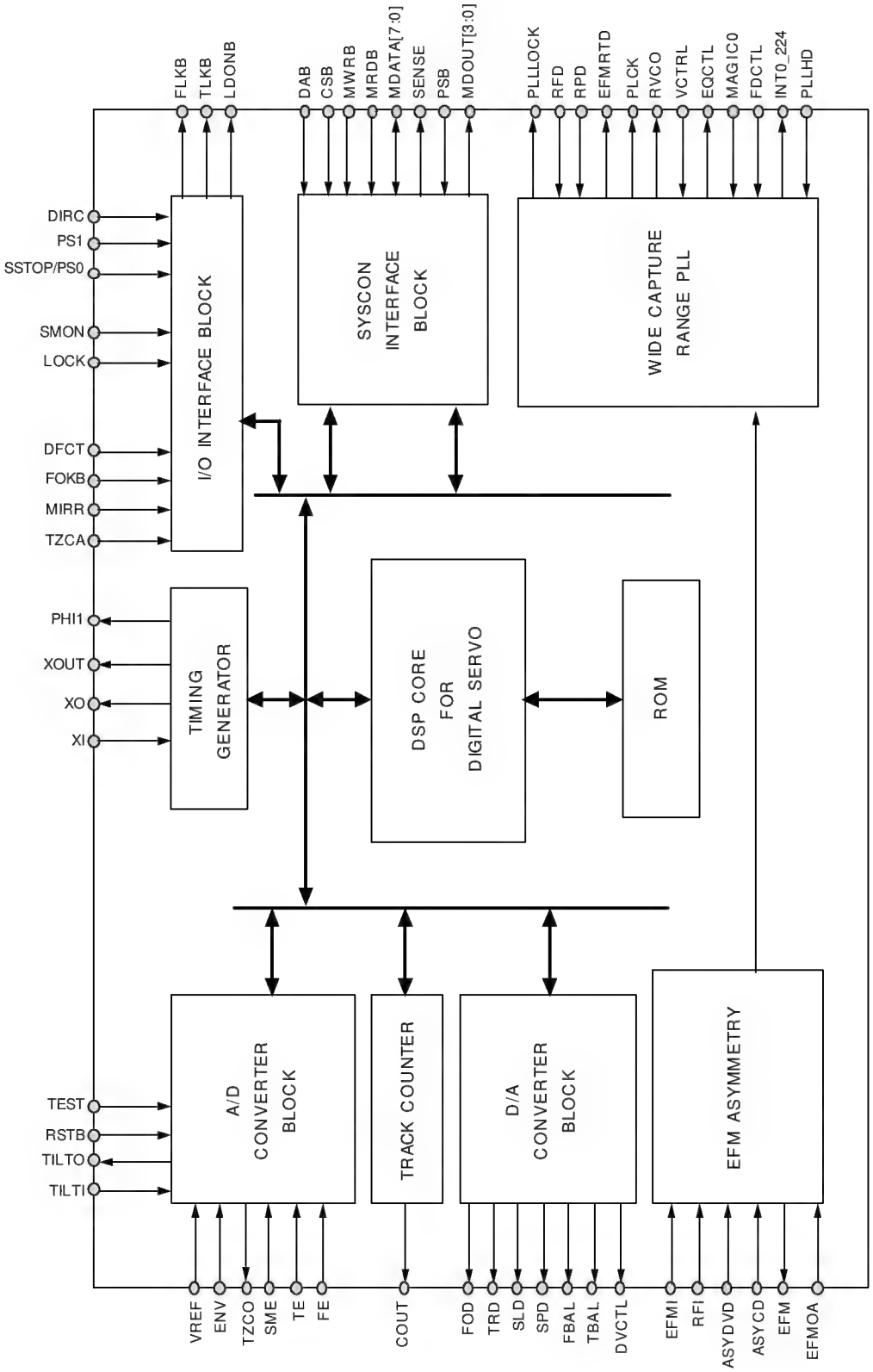
## 2-1-8 RIC1 (KS1461 ; RF Signal Processor)



| Pin No. | Pin Name | I/O | Description | Related Block | Related Part |
|---|---|---|---|---|---|
| 1 | ACD | I | Optical main beam A, AC Coupling input terminals for CD of RF block | PRE AMP | P/U |
| 2 | BCD | I | Optical main beam B, AC Coupling input terminals for CD of RF block | PRE AMP | P/U |
| 3 | CCD | I | Optical main beam C, AC Coupling input terminals for CD of RF block | PRE AMP | P/U |
| 4 | DCD | I | Optical main beam D, AC Coupling input terminals for CD of RF block | PRE AMP | P/U |
| 5 | ADVD | I | Optical main beam A, AC Coupling input terminals for DVD of RF block | PRE AMP | P/U |
| 6 | BDVD | I | Optical main beam B, AC Coupling input terminals for DVD of RF block | PRE AMP | P/U |
| 7 | CDVD | I | Optical main beam C, AC Coupling input terminals for DVD of RF block | PRE AMP | P/U |
| 8 | DDVD | I | Optical main beam D, AC Coupling input terminals for DVD of RF block | PRE AMP | P/U |
| 9 | RREFBF | - | RF AMP I-O buffer bias resistance connection terminal | RF AMP | - |
| 10 | RREFEQ | - | RF EQ BIAS resistance connection terminal | RF EQ | - |
| 11 | RREF | - | Analog Block bias resistance connection terminal | ANALOG | - |
| 12 | VREFEQ | - | CAP connection terminal for RF EQ Center voltage | EQ VC AMP | - |
| 13 | E | I | CD Optical sub beam E input terminal for Servos | TE 3B | P/U |
| 14 | F | I | CD Optical sub beam F input terminal for Servos | TE 3B | P/U |
| 15 | ADVD1 | I | Optical main beam A input terminal for DVD of Servo block | SERVO AMP | P/U |
| 16 | BDVD1 | I | Optical main beam B input terminal for DVD of Servo block | SERVO AMP | P/U |
| 17 | CDVD1 | I | Optical main beam C input terminal for DVD of Servo block | SERVO AMP | P/U |
| 18 | DDVD1 | I | Optical main beam D input terminal for DVD of Servo block | SERVO AMP | P/U |
| 19 | ACD1 | I | Optical main beam A input terminal for CD of Servo block | SERVO AMP | P/U |
| 20 | BCD1 | I | Optical main beam B input terminal for CD of Servo block | SERVO AMP | P/U |
| 21 | CCD1 | I | Optical main beam C input terminal for CD of Servo block | SERVO AMP | P/U |
| 22 | DCD1 | I | Optical main beam D input terminal for CD of Servo block | SERVO AMP | P/U |
| 23 | AVCC | P | Power voltage input terminal for Analog Part | ANALOG | - |
| 24 | VREFA | I/O | CAP connection terminal for Analog Part center voltage Uses an external block | ANA VC AMP | SERVO |
| 25 | FOFST | - | CAP connection terminal (open) for Focus Auto Offsets | FE AMP | - |
| 26 | OFSTHOLD | I | On/Off terminal for Auto Offset Block (L: Auto Offset Adjustments, H: Serial Offset Adjustments) | OFSTCTL | MICOM |
| 27 | VREFLP_BGI | I | Band gap voltage input block for ALPC | ALPC | - |
| 28 | LDODVD | O | Optical Laser Diodes operation voltage output terminal for DVD | ALPC | P/U |
| 29 | PDDVD | I | Optical Laser Monitor Diode voltage input terminal for DVD | ALPC | P/U |
| 30 | LDOCD | O | Optical Laser Diode operating voltage output terminal for CD | ALPC | P/U |
| 31 | PDCD | I | Optical Laser Monitor Diode voltage input terminal for CD | ALPC | P/U |
| 32 | AGND | P | Power GND terminal for Analog Part | ANALOG | - |
| 33 | FE | O | FE AMP output terminal | FE AMP | DSSP |
| 34 | FEN | I | Input terminal for selecting FE AMP Gain | FE AMP | - |
| 35 | TEN | I | Input terminal for selecting TE AMP Gain | TE AMP | - |
| 36 | TE | O | TE AMP output terminal | TE AMP | DSSP |
| 37 | PDLIMTRES | - | Bias resistance terminal for PDLIMIT | DPD | - |
| 38 | ABCDN | I | ABCD AMP for selecting Gain (-) input terminal | ABCD AMP | - |
| 39 | ABCD | O | ABCD AMP output terminal | ABCD AMP | - |
| 40 | ABCDI | I | ABCD AC Coupling input terminal for servo monitor | SERVO MONIT | - |
| 41 | ENVP | - | CAP connection terminal for selecting the RC value of Peak Hold for detecting RF Envelopes | RF ENV | - |
| 42 | ENVB | - | CAP connection terminal for selecting the RC value of Bottom Hold for detecting RF Envelopes | RF ENV | - |
| 43 | ENV | O | RF Envelope Detect Output terminal | RF ENV | DSSP |
| 44 | DGND | P | Power GND input terminal for digital circuits | DIGITAL | - |
| 45 | FOKTH | I | Focus OK comparating level input terminal | FOKB | - |
| 46 | FOKB | O | Focus OK comparator output terminal (L: Focus OK) | FOKB | DSSP |
| 47 | DFCT_CP1 | - | Connection terminal for RC value of Peak Hold. for selecting the maximum time for Servo signal | DFCT | - |
| 48 | DFCT_CP2 | - | Connection terminal for RC value of Peak Hold. for selecting the minimum defect time for PLL | DFCT | - |
| 49 | CC1 | O | Peak Hold Output terminal for selecting the minimum Defect time for Defect | DFCT | - |
| 50 | CC2 | I | Peak Hold AC Coupling Input terminal for Defect | DFCT | - |
| 51 | DVCC | P | Power voltage input terminal for digital circuit | DIGITAL | - |
| 52 | DFCTTH2 | - | Resistance connection terminal for selecting the Defect Comparating Level for PLL | DEFECT | - |
| 53 | DFCTTH1 | - | Resistance connection terminal for selecting the Defect Comparating Level for Servo | DEFECT | - |
| 54 | DFCT1 | O | Defect output terminal for Servo | DEFECT | DSSP |
| 55 | DFCT2 | O | Defect output terminal for PLL | DEFECT | PLL |
| 56 | DPDVCC | P | Power voltage input terminal for DPD TE | DPD | - |
| 57 | MIRR | O | Mirror output terminal | MIRR | DSSP |
| 58 | BCA | O | BCA output terminal | BCA | DSP |

| Pin No. | Pin Name | I/O | Description | Related Block | Related Part |
|---|---|---|---|---|---|
| 59 | TE3OFST | - | Cap connection terminal (open) for 3B TE Offset | 3B TE AMP | - |
| 60 | DPDEQ1 | O | DPD EQ (A+C) output terminal | DPD | - |
| 61 | DPDEQ2 | O | DPD EQ (B+D) output terminal | DPD | - |
| 62 | FAULTOUT | O | DPD abnormal wave form output terminal (monitor) | DPD | - |
| 63 | DPDMUTE | I | DPD TE MUTE control terminal (H: Mute) | DPD | MICOM |
| 64 | PLLCTL | I | DPD TE PLL variable input terminal | DPD | SERVO |
| 65 | TE1RES | I | DPD TE PLL variable bias resistance | DPD | - |
| 66 | DPDGND | P | Power GND input terminal for DPD TE | DPD | - |
| 67 | VREFDPD | O | CAP connection terminal for DPD TE center voltage | DPD VC AMP | - |
| 68 | RREFDLY | - | Bias resistance connection terminal for Delay Block | Delay Block | - |
| 69 | DATA | I | Data input terminal | Serial Interface | MICOM |
| 70 | CLOCK | I | Clock input terminal | Serial Interface | MICOM |
| 71 | STB | I | Data Enable input terminal | Serial Interface | MICOM |
| 72 | OSC | | Input terminal for RC value of OSC, for Auto Offset Block | Auto OFSTCTL | - |
| 73 | RESET | I | Reset input terminal (L: Reset) for Auto Offset Block | Auto OFSTCTL | MICOM |
| 74 | BCAI | I | BCA Filter1 | BCA | - |
| 75 | BCAO | O | BCA Filter2 Related | BCA | - |
| 76 | RFCT | O | RF Ripple Center voltage output terminal for Mirror | MIRROR | DSSP |
| 77 | CB2 | - | CAP connection terminal of RC value of Bottom Hold, for RFCT generation | MIRROR | - |
| 78 | CP2 | - | CAP connection terminal of RC value of Peak Hold, for RFCT generation | MIRROR | - |
| 79 | RFRP | O | RF Ripple Amp output terminal for Mirror | MIRROR | DSSP |
| 80 | RFRPN | I | Input terminal for selecting RFRP Amp gain | MIRROR | - |
| 81 | MROFST | I | RF Ripple Offset control terminal for Mirror | MRROR | - |
| 82 | CB1 | - | RC connection terminal of RC value of Bottom Hold, for RFRP generation | MRROR | - |
| 83 | CP1 | - | RC connection terminal of RC value of Peak Hold, for RFRP generation | MRROR | - |
| 84 | MIRRI | I | Input terminal for MIRR signal generation | MRROR | - |
| 85 | EQVCC | P | Power voltage input signal for RF EQ | RF EQ | - |
| 86 | RFEQ0 | 0 | RF EQ output terminal | RF EQ | PLL |
| 87 | BCATH | I | BCA Comparating Level control terminal | BCA | DSP |
| 88 | EQIN | I | RFAGCO input terminal for RF EQ | RFEQ,RFENV | DSSP |
| 89 | RFAGCO | O | RF AGC AMP output terminal | RF AGC | - |
| 90 | AGCC | - | CAP connection terminal for time constant of AGC | RF AGC | - |
| 91 | AGCI | I | AGC voltage input terminal while in AGC hold | RF AGC | - |
| 92 | EQGND | P | Power GND input terminal for RF EQ | RF EQ | - |
| 93 | AGCLEVEL | I | AGC Level control voltage input terminal (3.5 V) while in AGC hold off | RF AGC | - |
| 94 | AGCB | - | RC connection terminal for RC value of Bottom Hold, for RF AGC | RF AGC | - |
| 95 | AGCP | - | RC connection terminal for RC value of Peak Hold, for RF AGC | RF AGC | - |
| 96 | RDPF | - | Bias resistance connection terminal for selecting RF EQ frequency | RF EQ | - |
| 97 | EQG | I | RF EQ Boost Gain control voltage input terminal | RF EQ | DSSP |
| 98 | EQF | I | RF EQ Peak Frequency control voltage input terminal | RF EQ | DSSP |
| 99 | PLLF | I | Wide-band PLL compatible RF EQ Peak Frequency Control terminal | RF EQ | DSSP |
| 100 | VZOCTL | I | RF EQ zero control terminal | RF EQ | DSSP |

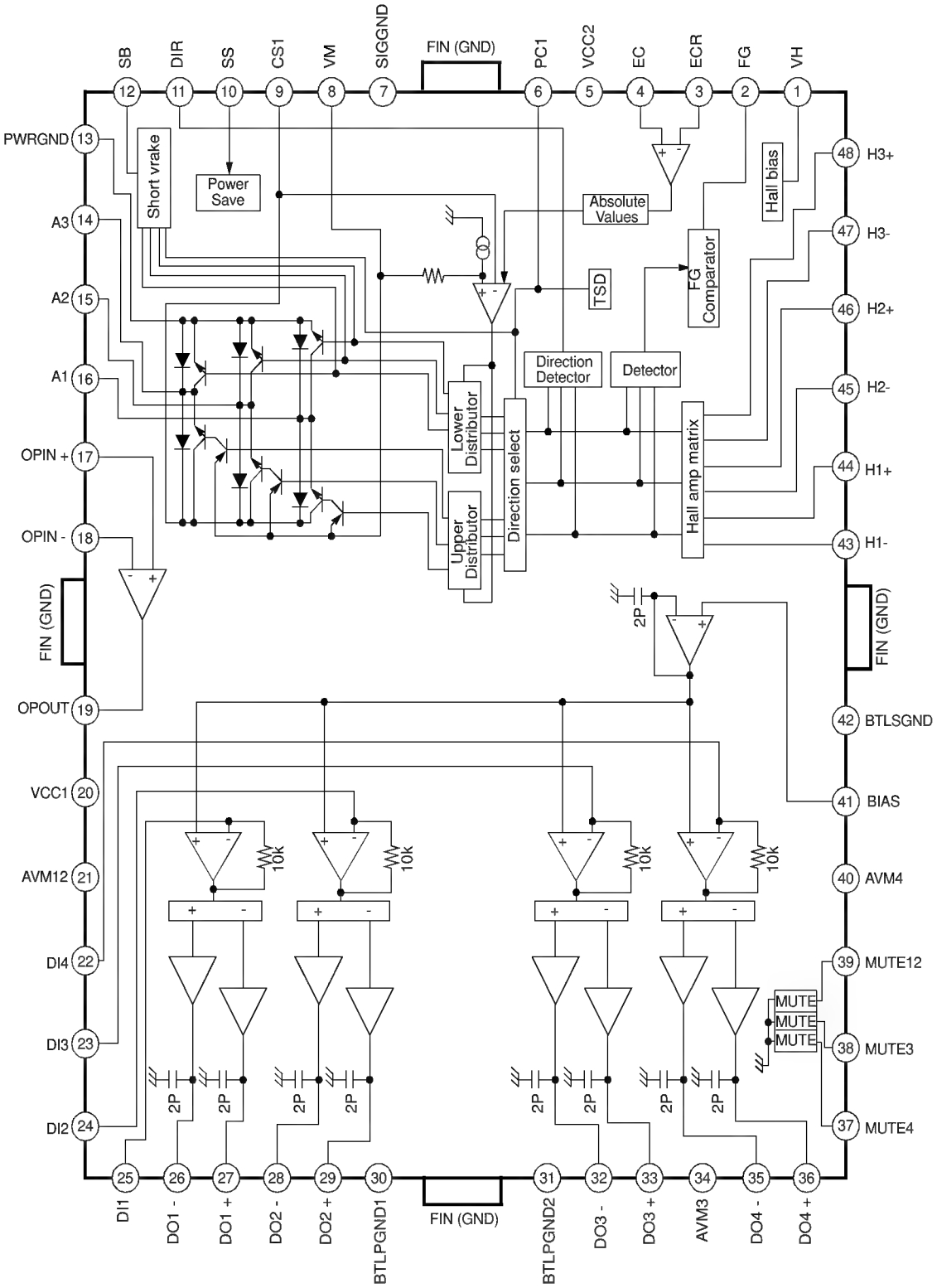
## 2-1-9 SIC1 (KS1452 ; Servo Processor)



| No | Name | I/O | Description |
|---|---|---|---|
| 1 | MDOUT3 | O | Mode data3 out controlled by micom |
| 2 | SSTOP/PS0PS1 | I | Limit switch/sled position sensor input pin0 |
| 3 | PS1 | I | Sled motor position sensor input pin1 |
| 4 | TEST | I | Test pin (L: normal H: test) |
| 5 | COUT | O | Counter clock |
| 6 | FLKB | O | Focus servo lock signal output pin |
| 7 | TLKB | O | Tracking servo lock signal output pin |
| 8 | PSB | I | 0: 1 Bit, 1: 8 Bit |
| 9 | RSTB | I | System reset signal input pin |
| 10 | CSB | I | MICOM chip select pin |
| 11 | DAB | I | MICOM data/addrs select pin |
| 12 | MWRB | I | MICOM write clock signal input pin |
| 13 | MRDB | I | MICOM read clock signal input pin |
| 14 | MDATA0 | I/O | MICOM data pin0 |
| 15 | MDATA1 | I/O | MICOM data pin1 |
| 16 | MDATA2 | I/O | MICOM data pin2 |
| 17 | MDATA3 | I/O | MICOM data pin3 |
| 18 | MDATA4 | I/O | MICOM data pin4 |
| 19 | MDATA5 | I/O | MICOM data pin5 |
| 20 | MDATA6 | I/O | MICOM data pin6 |
| 21 | MDATA7 | I/O | MICOM data pin7 |
| 22 | SENSE | O | Internal status monitor pin |
| 23 | DVDD | P | Servo logic & ROM VDD power supply pin |
| 24 | XI | I | System clock signal input pin |
| 25 | XO | O | System clock signal output pin |
| 26 | XOUT | O | Clock out (33.9688MHz) to DSP |
| 27 | DVSS | P | Servo logic & ROM VSS power supply pin |
| 28 | SQCK | O | Clock output pin for subcode data read |
| 29 | SQSI | I | Subcode data input pin |
| 30 | SCOR | I | Timing detection input pin for subcode data read |
| 31 | SMON | I | Motor ON signal input pin |
| 32 | LOCK | I | Lock signal input pin |
| 33 | DIRC | I | Direct jump control (for 1 track jump) |
| 34 | FOKB | I | Focus OK signal input pin |
| 35 | FDCTL | I | PLL frequency detect control input pin |
| 36 | LDONB | O | Laser diode ON signal output pin |
| 37 | DFCT | I | Defect detection signal input pin |
| 38 | MIRR | I | Mirror signal input pin |
| 39 | PLLHD | I | PLL hold signal from micom |
| 40 | INT0_224 | O | Servo interrupt monitor pin |

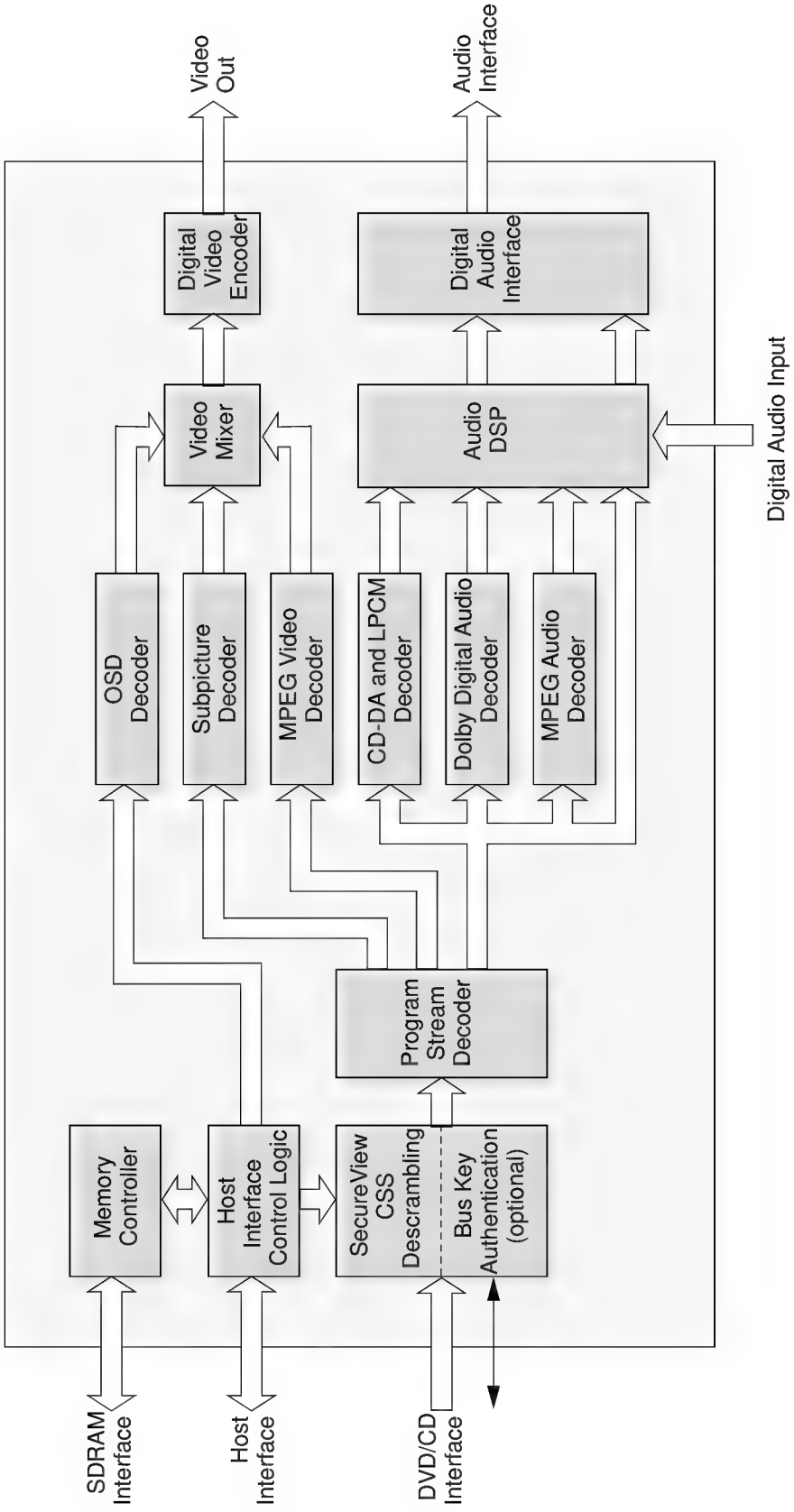
| No | Name | I/O | Description |
|---|---|---|---|
| 41 | PVDD | P | PLL logic block VDD power supply pin |
| 42 | PLCK | O | PLCK |
| 43 | PLLLOCK | O | Frequency lock detect output (H: lock, L: unlock) |
| 44 | EFMRTD | O | Latched EFM output signal |
| 45 | PVSS | P | PLL logic block VSS power supply pin |
| 46 | RVCO | I | Resistor pin for VCO gain |
| 47 | RFD | I | Gain adjust resister for frequency detector |
| 48 | RPD | I | Gain adjust resister for phase detector |
| 49 | VCTL | I | control voltage for VCO |
| 50 | MAGIC0 | I | Input for controlling hysteresis of the FD output (for testing) |
| 51 | EFMOA | I | EFM offset adjustment pin |
| 52 | TZCO | O | Tracking zero cross output pin |
| 53 | SVDD | P | Servo CPU VDD power supply pin |
| 54 | EQCTL | O | EQ control signal |
| 55 | EFMI | I | EFM signal for test |
| 56 | EFMO | O | EFM signal |
| 57 | LPFDVD | I | Asymmetric input signal for DVD |
| 58 | LPFCD | I | Asymmetric input signal for CD |
| 59 | RFI | I | Rf input signal |
| 60 | SVSS | P | Servo CPU VSS power supply pin |
| 61 | AVSS | P | Analog block VSS power supply pin |
| 62 | SME | I | Spindle error input pin |
| 63 | VREF | I | Reference voltage input pin |
| 64 | TE | I | Tracking error signal input pin |
| 65 | FE | I | Focus error signal input pin |
| 66 | ENV | I | RF envelope input pin |
| 67 | TILTI | I | TILT in (reserved) |
| 68 | AVDD | P | Analog block VDD power supply pin |
| 69 | TILTO | O | TILT out (reserved) |
| 70 | DVCTL | O | Depth variation control signal output pin |
| 71 | TBAL | O | Tracking balance signal output pin |
| 72 | FBAL | O | Focus balance signal output pin |
| 73 | SLD | O | Sled motor drive signal output pin |
| 74 | SPD | O | Spindle motor drive signal output pin |
| 75 | FOD | O | Focus actuator drive signal output pin |
| 76 | TRD | O | Tracking actuator drive signal output pin |
| 77 | TZCA | I | TE signal for tracking zero cross input pin |
| 78 | MDOUT0 | O | Mode data0 out controlled by micom |
| 79 | MDOUT1 | O | Mode data1 out controlled by micom |
| 80 | MDOUT2 | O | Mode data2 out controlled by micom |

## 2-1-10 SIC4 (KA3017 ; Motor & Actuator Driver)



| No. | Symbol | I/O | Description |
|---|---|---|---|
| 1 | VH | I | HALL BIAS |
| 2 | FG | O | FG SIGNAL OUTPUT |
| 3 | ECR | I | TORQUE CONTROL REFERENCE |
| 4 | EC | I | TORQUE CONTROL SIGNAL |
| 5 | VCC2 | — | SUPPLY VOLTAGE |
| 6 | PC1 | — | PHASE COMPENSATION CAPACITOR |
| 7 | SIGGND | — | SIGNAL GROUND |
| 8 | VM | — | MOTOR SUPPLY VOLTAGE |
| 9 | CS1 | I | CURRENT SENSOR |
| 10 | S/S | I | START/STOP |
| 11 | DIR | O | 3-PHASE ROTATIONAL DIRECTION OUTPUT |
| 12 | SB | I | SHORT BRAKE |
| 13 | PWRGND | — | POWER GROUND |
| 14 | A3 | O | 3-PHASE OUTPUT 3 |
| 15 | A2 | O | 3-PHASE OUTPUT 2 |
| 16 | A1 | O | 3-PHASE OUTPUT 1 |
| 17 | OPIN+ | I | OP AMP INPUT (+) |
| 18 | OPIN- | I | OP AMP INPUT (-) |
| 19 | OPOUT | O | OP AMP OUTPUT |
| 20 | VCC1 | — | SUPPLY VOLTAGE |
| 21 | AVM12 | — | BTL CH-1, 2 MOTOR SUPPLY VOLTAGE |
| 22 | DI4 | I | BTL DRIVE INPUT 4 |
| 23 | DI3 | I | BTL DRIVE INPUT 3 |
| 24 | DI2 | I | BTL DRIVE INPUT 2 |
| 25 | DI1 | I | BTL DRIVE INPUT 1 |
| 26 | DO1- | O | BTL DRIVE 1 OUTPUT (-) |
| 27 | DO1+ | O | BTL DRIVE 1 OUTPUT (+) |
| 28 | DO2- | O | BTL DRIVE 2 OUTPUT (-) |
| 29 | DO2+ | O | BTL DRIVE 2 OUTPUT (+) |
| 30 | BTLPGND1 | — | BTL POWER GROUND 1 |
| 31 | BTLPGND2 | — | BTL POWER GROUND 2 |
| 32 | DO3- | O | BTL DRIVE 3 OUTPUT (-) |
| 33 | DO3+ | O | BTL DRIVE 3 OUTPUT (+) |
| 34 | AVM3 | — | BTL CH3 MOTOR SUPPLY VOLTAGE |
| 35 | DO4- | O | BTL DRIVE 4 OUTPUT (-) |
| 36 | DO4+ | O | BTL DRIVE 4 OUTPUT (+) |
| 37 | MUTE4 | I | BTL DRIVE MUTE CH 4 |
| 38 | MUTE3 | I | BTL DRIVE MUTE CH 3 |
| 39 | MUTE12 | I | BTL DRIVE MUTE CH 1, 2 |
| 40 | AVM4 | — | BTL CH 4 MOTOR SUPPLY VOLTAGE |
| 41 | BIAS | — | BTL BIAS VOLTAGE |
| 42 | BTLSGND | — | BTL DRIVE SIGNAL GROUND |
| 43 | H1- | I | HALL1(-) INPUT |
| 44 | H1+ | I | HALL1(+) INPUT |
| 45 | H2- | I | HALL2(-) INPUT |
| 46 | H2+ | I | HALL2(+) INPUT |
| 47 | H3- | I | HALL3(-) INPUT |
| 48 | H3+ | I | HALL3(+) INPUT |

## 2-1-11 ZIC1 (ZIVA 4.1 ; A/V Decoder)



| Pin No. | Pin Name | I/O Voltage | I/O Type |
|---|---|---|---|
| 1 | RD | 3.3V | I |
| 2 | R/W | 3.3V | I |
| 3 | VDD_3.3 | 3.3V | |
| 4 | WAIT | 3.3V | O, OD, PU |
| 5 | RESET | 3.3V | I |
| 6 | VSS | GROUND | |
| 7 | VDD_3.3 | 3.3V | |
| 8 | INT | 3.3V | O, OD, PU |
| 9 | NC | No Connect | O |
| 10 | NC | No Connect | O |
| 11 | NC | No Connect | O |
| 12 | NC | No Connect | O |
| 13 | VDD 2.5 | 2.5V | |
| 14 | VSS | GROUND | |
| 15 | NC | No Connect | O |
| 16 | NC | No Connect | O |
| 17 | NC | No Connect | O |
| 18 | NC | No Connect | O |
| 19 | VSS | GROUND | |
| 20 | VDD 3.3 | 3.3V | |
| 21 | VDATA0 | 3.3V | O |
| 22 | VDATA1 | 3.3V | O |
| 23 | VDATA2 | 3.3V | O |
| 24 | VDATA3 | 3.3V | O |
| 25 | VDATA4 | 3.3V | O |
| 26 | VDATA5 | 3.3V | O |
| 27 | VDATA6 | 3.3V | O |
| 28 | VDATA7 | 3.3V | O |
| 29 | VSYNC | 3.3V | I/O |
| 30 | HSYNC | 3.3V | I/O |
| 31 | VSS | GROUND | |
| 32 | VDD 3.3 | 3.3V | |
| 33 | RESERVED | 3.3V | I |
| 34 | RESERVED | 3.3V | I |
| 35 | RESERVED | 3.3V | I |
| 36 | VDD_2.5 | 2.5V | |
| 37 | VSS | GROUND | |
| 38 | RESERVED | 3.3V | I |
| 39 | RESERVED | 3.3V | I |
| 40 | RESERVED | 3.3V | I |
| 41 | RESERVED | 3.3V | I |
| 42 | RESERVED | 3.3V | I |
| 43 | PIO0 | 3.3V | I/O |
| 44 | VSS | GROUND | |
| 45 | VDD_3.3 | 3.3V | |
| 46 | PIO1 | 3.3V | I/O |
| 47 | PIO2 | 3.3V | I/O |
| 48 | PIO3 | 3.3V | I/O |

| Pin No. | Pin Name | I/O Voltage | I/O Type |
|---|---|---|---|
| 49 | PIO4 | 3.3V | I/O |
| 50 | PIO5 | 3.3V | I/O |
| 51 | PIO6 | 3.3V | I/O |
| 52 | PIO7 | 3.3V | I/O |
| 53 | MDATA0 | 3.3V | I/O |
| 54 | MDATA1 | 3.3V | I/O |
| 55 | VDD 3.3 | 3.3V | |
| 56 | VSS | GROUND | |
| 57 | MDATA2 | 3.3V | I/O |
| 58 | MDATA3 | 3.3V | I/O |
| 59 | MDATA4 | 3.3V | I/O |
| 60 | MDATA5 | 3.3V | I/O |
| 61 | MDATA6 | 3.3V | I/O |
| 62 | MDATA7 | 3.3V | I/O |
| 63 | MDATA15 | 3.3V | I/O |
| 64 | VDD_3.3 | 3.3V | I/O |
| 65 | VSS | GROUND | I/O |
| 66 | MDATA14 | 3.3V | I/O |
| 67 | VDD 2.5 | 2.5V | |
| 68 | VSS | GROUND | |
| 69 | MDATA13 | 3.3V | I/O |
| 70 | MDATA12 | 3.3V | I/O |
| 71 | MDATA11 | 3.3V | I/O |
| 72 | MDATA10 | 3.3V | I/O |
| 73 | MDATA9 | 3.3V | I/O |
| 74 | VDD_3.3 | 3.3V | |
| 75 | VSS | GROUND | |
| 76 | MDATA8 | 3.3V | I/O |
| 77 | LDQM | 3.3V | O |
| 78 | SD-CLK | 3.3V | O |
| 79 | CLKSEL | 3.3V | I |
| 80 | MADDR9 | 3.3V | O |
| 81 | MADDR8 | 3.3V | O |
| 82 | VDD_3.3 | 3.3V | |
| 83 | VSS | GROUND | |
| 84 | MADDR7 | 3.3V | O |
| 85 | MADDR6 | 3.3V | O |
| 86 | MADDR5 | 3.3V | O |
| 87 | VDD 2.5 | 2.5V | |
| 88 | VSS | GROUND | |
| 89 | MADDR4 | 3.3V | O |
| 90 | MWE | 3.3V | O |
| 91 | SD-CAS | 3.3V | O |
| 92 | VDD_3.3 | 3.3V | |
| 93 | VSS | GROUND | |
| 94 | SD-RAS | 3.3V | O |
| 95 | SD-CS0 | 3.3V | O |
| 96 | SD-CS1/MADDR11 | 3.3V | O |

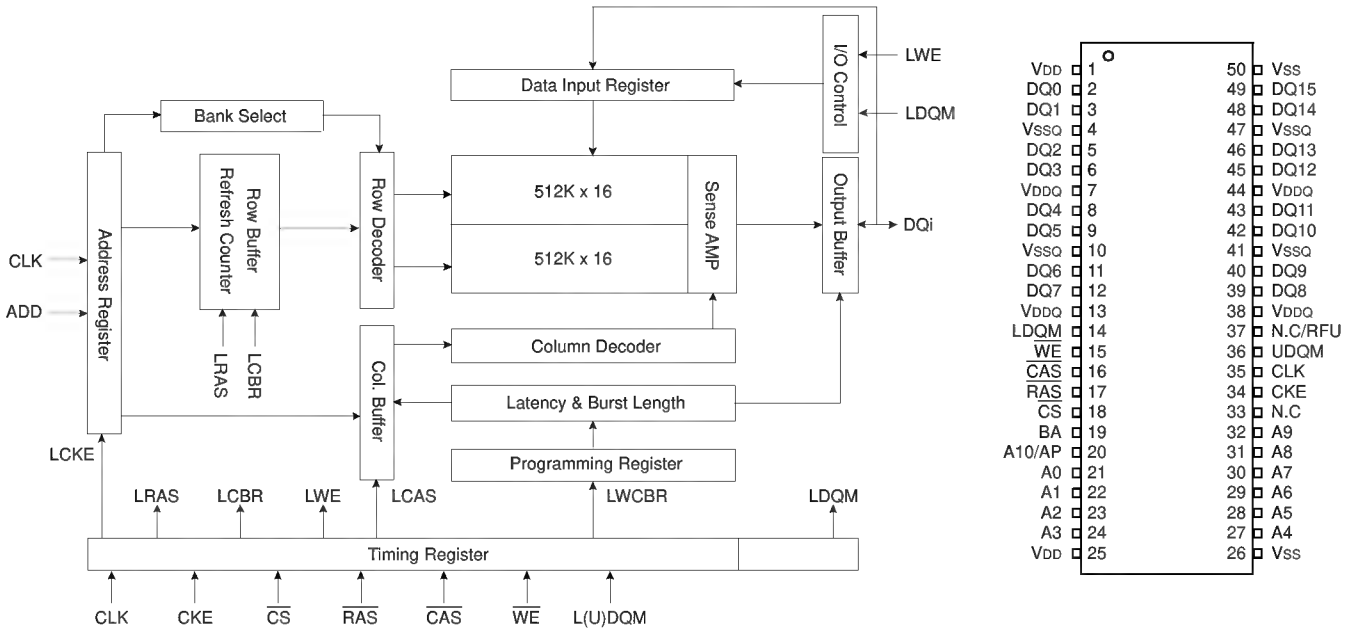
| Pin No. | Pin Name | I/O Voltage | I/O Type |
|---|---|---|---|
| 97 | SD-BS | 3.3V | O |
| 98 | MADDR10 | 3.3V | O |
| 99 | MADDR0 | 3.3V | O |
| 100 | VDD_3.3 | 3.3V | |
| 101 | VSS | GROUND | |
| 102 | MADDR1 | 3.3V | O |
| 103 | MADDR2 | 3.3V | O |
| 104 | MADDR3 | 3.3V | O |
| 105 | RESERVED | ANALOG GND | |
| 106 | NC | No connect | O |
| 107 | NC | No connect | O |
| 108 | RESERVED | 3.3V | I |
| 109 | NC | No connect | O |
| 110 | RESERVED | 3.3V | I |
| 111 | RESERVED | 3.3V ANALOG | |
| 112 | RESERVED | 3.3V | I |
| 113 | DAI-LRCK | 3.3V | I/O |
| 114 | DAI-BCK | 3.3V | I/O |
| 115 | VDD_3.3 | 3.3V | |
| 116 | VSS | GROUND | |
| 117 | DAI-DATA | 3.3V | I/O |
| 118 | DA-DATA3 | 3.3V | O |
| 119 | DA-DATA2 | 3.3V | O |
| 120 | DA-DATA1 | 3.3V | O |
| 121 | DA-DATA0 | 3.3V | O |
| 122 | DA-LRCK | 3.3V | O |
| 123 | VDD_3.3 | 3.3V | |
| 124 | VSS | GROUND | |
| 125 | DA-XCK | 3.3V | I/O |
| 126 | DA-BCK | 3.3V | O |
| 127 | DA-IEC | 3.3V | O |
| 128 | VDD_2.5 | 2.5V | |
| 129 | VSS | GROUND | |
| 130 | NC | No Connect | O |
| 131 | VSS_DAC | ANALOG GND | |
| 132 | VSS_VIDEO | ANALOG GND | |
| 133 | CVBS + sync | 3.3V ANALOG | O |
| 134 | VDD DAC | 3.3V ANALOG | O |
| 135 | VDD_VIDEO | 3.3V ANALOG | |
| 136 | NC | No Connect | O |
| 137 | VSS_DAC | ANALOG GND | |
| 138 | VSS VIDEO | ANALOG GND | |
| 139 | CVBS/G/Y | 3.3V ANALOG | O |
| 140 | VDD_DAC | 3.3V ANALOG | |
| 141 | VDD_VIDEO | 3.3V ANALOG | |
| 142 | NC | No Connect | O |
| 143 | VSS_DAC | ANALOG GND | |

| Pin No. | Pin Name | I/O Voltage | I/O Type |
|---|---|---|---|
| 144 | VSS VIDEO | ANALOG GND | |
| 145 | Y/B/U | 3.3V ANALOG | O |
| 146 | VDD_DAC | 3.3V ANALOG | |
| 147 | VDD_VIDEO | 3.3V ANALOG | |
| 148 | NC | No Connect | O |
| 149 | VSS DAC | ANALOG GND | |
| 150 | VSS_VIDEO | ANALOG GND | |
| 151 | C/R/V | 3.3V ANALOG | O |
| 152 | VDD_DAC | 3.3V ANALOG | |
| 153 | VDD VIDEO | 3.3V ANALOG | |
| 154 | VSS_RREF | ANALOG GND | |
| 155 | RREF | 3.3V ANALOG | O |
| 156 | VDD RREF | 3.3V ANALOG | |
| 157 | A VSS | GROUND | |
| 158 | SYSCLK | 3.3V | I |
| 159 | VCLK | 3.3V | I |
| 160 | A_VDD | 3.3V ANALOG | |
| 161 | DVD-DATA0/CD-DATA | 3.3V | I |
| 162 | DVD-DATA1/CD-LRCK | 3.3V | I |
| 163 | DVD-DATA2/CD-BCK | 3.3V | I |
| 164 | DVD-DATA3/CD-C2P0 | 3.3V | I |
| 165 | DVD-DATA4/CDG-SDATA | 3.3V | I |
| 166 | VSS | GROUND | |
| 167 | VDD_3.3 | 3.3V | |
| 168 | DVD-DATA5/CDG-VFSY | 3.3V | I |
| 169 | DVD-DATA6/CDG-S0S1 | 3.3V | I |
| 170 | DVD-DATA7/CDG-SCLK | 3.3V | I |
| 171 | VDACK | 3.3V | I |
| 172 | VREQUEST | 3.3V | O |
| 173 | VSTROBE | 3.3V | I |
| 174 | ERROR | 3.3V | I |
| 175 | VDD_3.3 | 3.3V | |
| 176 | RESERVED | GROUND | |
| 177 | VDD 3.3 | 3.3V | |
| 178 | VSS | GROUND | |
| 179 | NC | No connect | O |
| 180 | NC | No connect | O |
| 181 | NC | No connect | O |
| 182 | HADDR0 | 3.3V | I |
| 183 | HADDR1 | 3.3V | I |
| 184 | HADDR2 | 3.3V | I |
| 185 | RESERVED | 3.3V | I |
| 186 | RESERVED | 3.3V | I |
| 187 | RESERVED | 3.3V | I |
| 188 | VSS | GROUND | |
| 189 | VDD 2.5 | 2.5V | |
| 190 | RESERVED | 3.3V | I |

| Pin No. | Pin Name | I/O Voltage | I/O Type |
|---|---|---|---|
| 191 | VSS | GROUND | |
| 192 | VDD_3.3 | 3.3V | |
| 193 | RESERVED | 3.3V | I |
| 194 | RESERVED | 3.3V | I |
| 195 | RESERVED | 3.3V | I |
| 196 | RESERVED | 3.3V | I |
| 197 | HDATA7 | 3.3V | I/O |
| 198 | VSS | GROUND | |

| Pin No. | Pin Name | I/O Voltage | I/O Type |
|---|---|---|---|
| 199 | HDATA6 | 3.3V | I/O |
| 200 | HDATA5 | 3.3V | I/O |
| 201 | HDATA4 | 3.3V | I/O |
| 202 | HDATA3 | 3.3V | I/O |
| 203 | HDATA2 | 3.3V | I/O |
| 204 | VDD_3.3 | 3.3V | |
| 205 | VSS | 3.3V | |
| 206 | HDATA1 | 3.3V | I/O |
| 207 | HDATA0 | 3.3V | I/O |
| 208 | CS | 3.3V | I |

## 2-1-12 ZIC2/ZIC3 (KM416S1120D ; CMOS 16M SDRAM)




| Pin | Name | InputFunction |
|---|---|---|
| CLK | System Clock | Active on the positive going edge to sample all inputs. |
| $\overline{CS}$ | Chip Select | Disables or enables device operation by masking or enabling all inputs except CLK, CKE and L(U)DQM |
| CKE | Clock Enable | Masks system clock to freeze operation from the next clock cycle. CKE should be enabled at least one cycle prior to new command. Disable input buffers for power down in standby. |
| $A_0$ ~ $A_{10}$/AP | Address | Row / column addresses are multiplexed on the same pins. Row address : $RA_0$ ~ $RA_{10}$, column address : $CA_0$ ~ $CA_7$ |
| BA | Bank Select Address | Selects bank to be activated during row address latch time. Selects bank for read/write during column address latch time. |
| $\overline{RAS}$ | Row Address Strobe | Latches row addresses on the positive going edge of the CLK with $\overline{RAS}$ low. Enables row access & precharge. |
| $\overline{CAS}$ | Column Address Strobe | Latches column addresses on the positive going edge of the CLK with $\overline{CAS}$ low. Enables column access. |
| $\overline{WE}$ | Write Enable | Enables write operation and row precharge. Latches data in starting from $\overline{CAS}$, $\overline{WE}$ active. |
| L(U)DQM | Data Input/Output Mask | Makes data output Hi-Z, $t_{SHZ}$ after the clock and masks the output. Blocks data input when L(U)DQM active. |
| $DQ_{0 \sim 15}$ | Data Input/Output | Data inputs/outputs are multiplexed on the same pins. |
| $V_{DD}$/$V_{SS}$ | Power Supply/Ground | Power and ground for the input buffers and the core logic. |
| $V_{DDQ}$/$V_{SSQ}$ | Data Output Power/Ground | Isolated power supply and ground for the output buffers to provide improved noise immunity. |
| N.C/RFU | No Connection/ Reserved for Future Use | This pin is recommended to be left No Connection on the device. |

# MEMO

# 3. Product Specifications

| | | |
|---|---|---|
| **GENERAL** | Power Requirements | AC 110 - 240V, 50/60Hz |
| | Power Consumption | 17W |
| | Weight | 3.1kg |
| | Dimensions | W 430mm X D 280mm X 89mm |
| | Operating Temperature Range | +5°C ~ +35°C |
| | Operating Humidity Range | 10% to 75% |
| **DISC** | DVD (Digital Versatile Disc) | Reading Speed : 3.49 m/sec |
| | | Approx. Play Time (Single Sided, Single Layer Disc) : 135 min. |
| | CD : 12Cm (Compact Disc) | Reading Speed : 1.2 to 1.4 m/sec |
| | | Maximum Play Time : 74min. |
| | CD : 8Cm (Compact Disc) | Reading Speed : 1.2to 1.4 m/sec. |
| | | Maximum Play Time : 20min. |
| | VCD : 12Cm | Reading Speed : 1.2 to 1.4 m/sec. |
| | | Maximum Play Time : 74min. (Video + Audio) |
| **Video Output** | Composite Video | 2 channel : 1.0Vp-p (75ohm load) |
| | Scart Jack | R(Red) : 0.714 Vp-p (75ohm load) |
| | | G(Green) : 0.714 Vp-p (75ohm load) |
| | | B(Blue) : 0.714 Vp-p (75ohm load) |
| | | Composite Video : 0.714 Vp-p (75ohm load) |
| | | Color Signal : 0.286 Vp-p (75ohm load) |
| | S-Video | Luminance Signal : 1Vp-p (75ohm load) |
| | | Color Signal : 0.286Vp-p (75ohm load) |
| **Audio Output** | Scart Jack | 2 Channel : L(1.L), R(2/R) |
| | 2 Channel | L (1/L), R (2/R) |
| | * Frequency Response | 48KHz Sampling : 4Hz to 22 KHz |
| | | 96KHz Sampling : 4Hz to 44KHz |
| | * S/N Ratio | 115dB |
| | * Dynamic Range | 105dB |
| | * Total Harmonic Distortion | 0.003% |

* : Nominal specification

# MEMO

# 4. Disassembly and Reassembly

## 4-1 Cabinet and PCB

**Note : Reassembly in reverse order.**

### 4-1-1 Top Cabinet Removal

1) Remove 3 Screws ❶ on the back Top Cabinet.
2) Remove 2 Screws ❷, ❸ on the left and right side.
3) Lift up the Top Cabinet in direction of arrow.

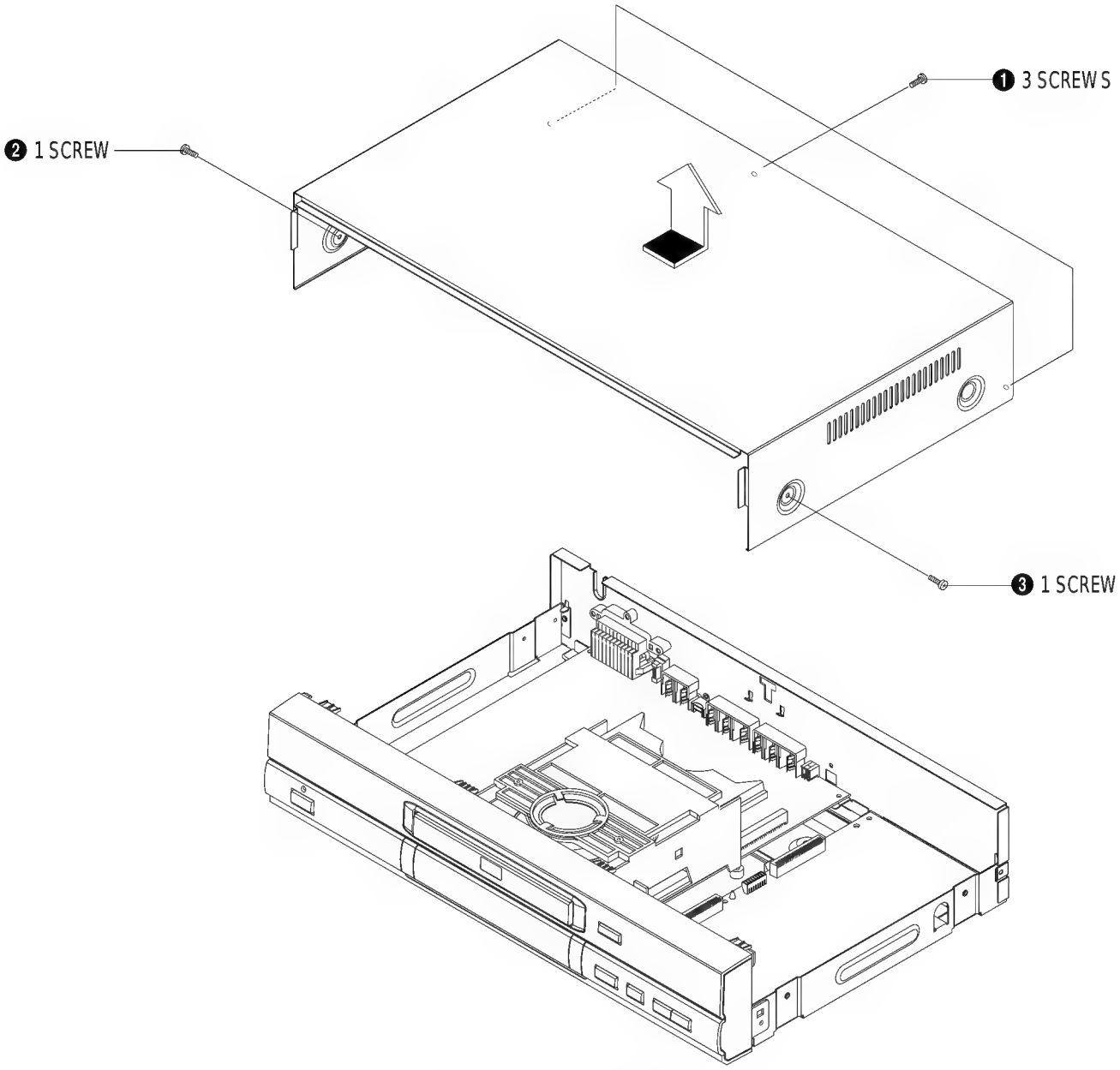



Fig. 4-1 Top Cabinet Removal

## 4-1-2 Door-Tray Removal

1) Supply power and open Tray ❶.
2) Disassemble the Door-Tray ❷ in direction of arrow "A".
3) Close Tray ❶ and power off.

**Note** : If Tray ❶ doesn't open, insert a Screw driver ❹ into the Emergency hole ❸ (as shown in detailed drawing) and then push it in the direction of arrow "B". Open Tray manually.

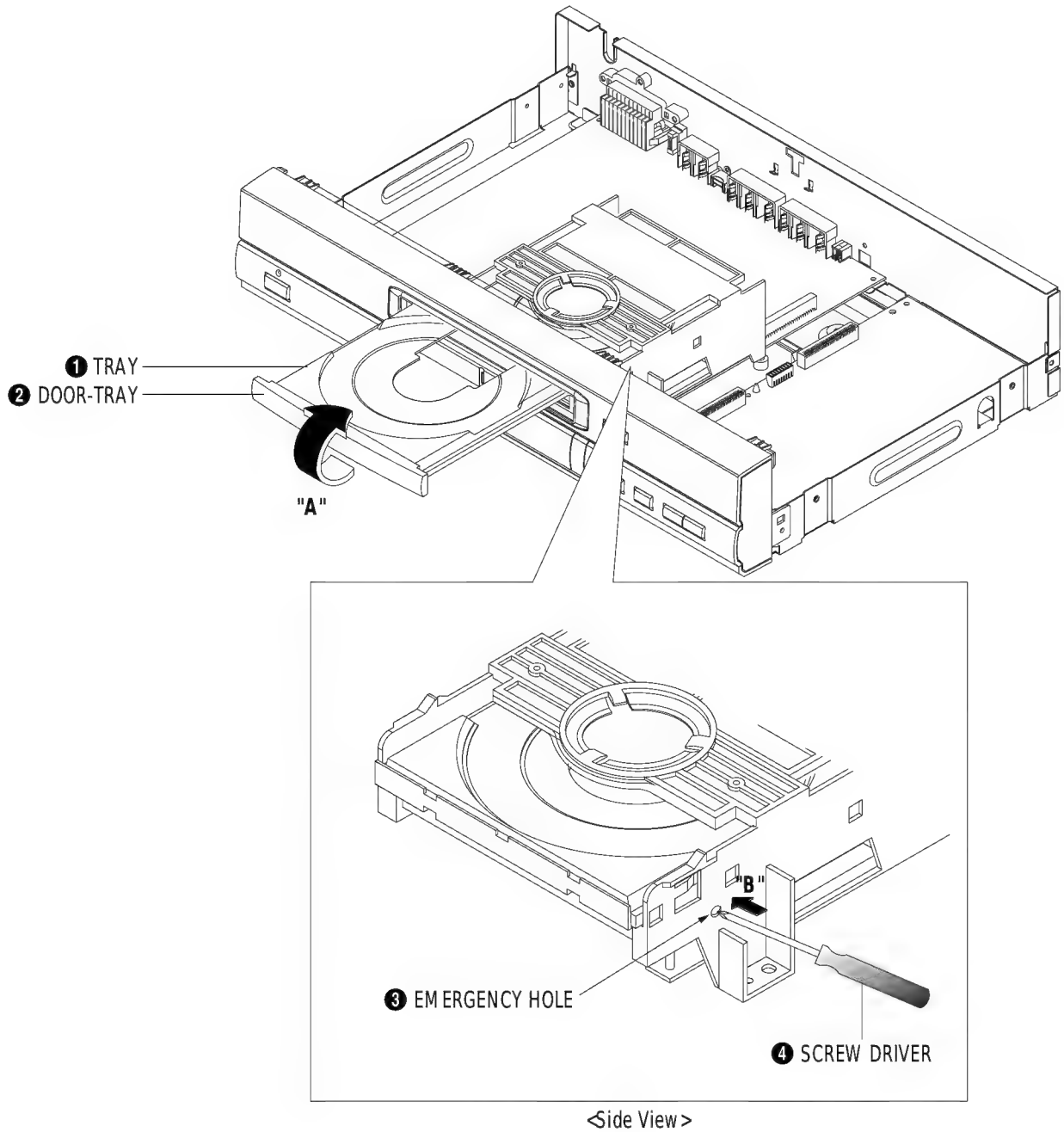



Fig. 4-2 Door-Tray Removal

## 4-1-3 Ass'y Front-Panel, Key PCB Removal

1) Remove Ass'y Front-Panel ❶.
2) Remove 5 Screws ❷ and Key PCB ❸.

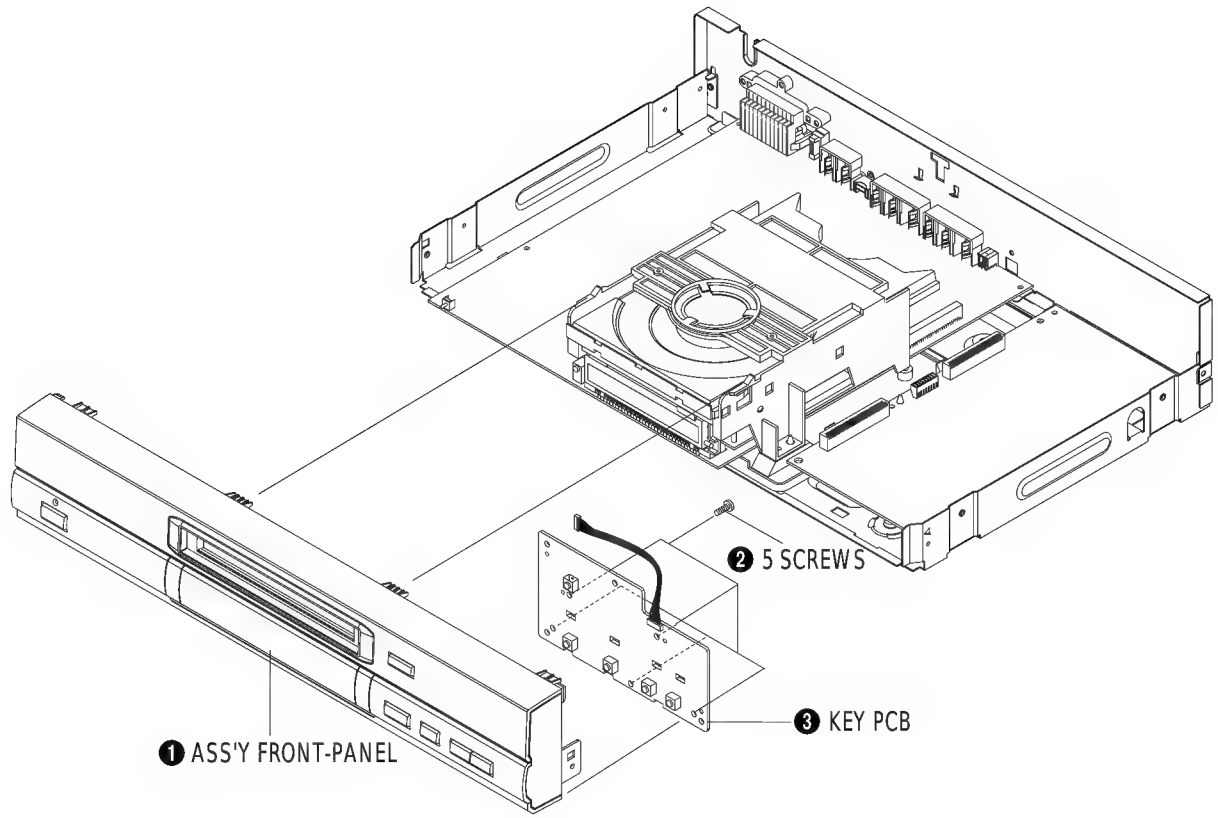



Fig. 4-3 Ass'y Front-Panel, Key PCB Removal

## 4-1-4 Ass'y Deck Removal

1) Remove 4 Screws ❶ from the Ass'y Deck and lift it up.

**CAUTIONS ;**
**(1) When disassembling, switch the SW3 to "OFF" on the Deck PCB and remove the FPC connected to DCN1 on Main PCB.**
**(2) When assembling, insert the FPC into the DCN1 on Main PCB and switch SW3 to "ON" on the Deck PCB.**

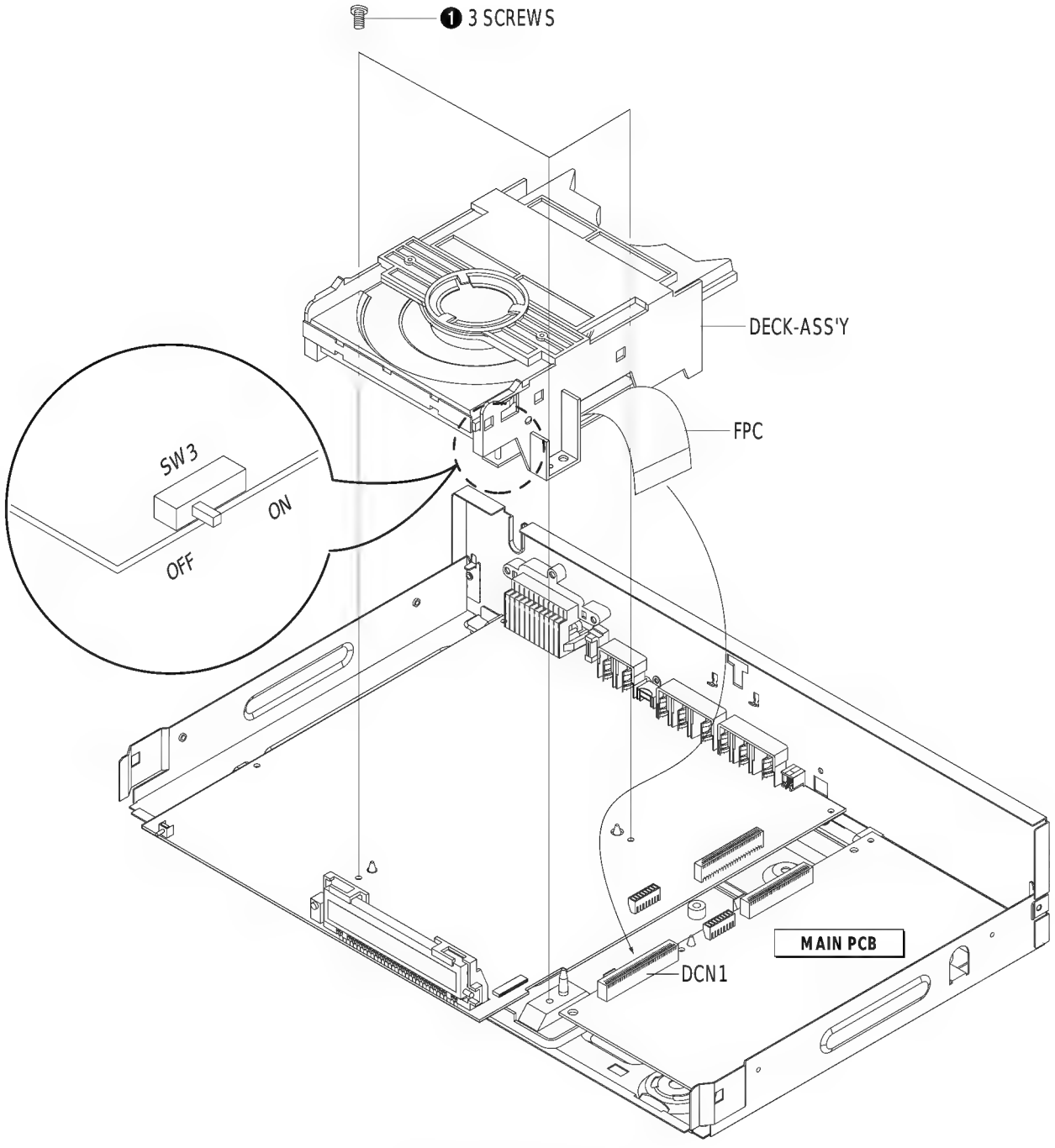



Fig. 4-4 Ass'y Deck Removal

## 4-1-5 Main PCB, Jack PCB Removal

1) Remove 1 Screw ❶.
2) Remove 2 Screws ❷ and lift up the Jack PCB ❸.
3) Remove 3 Screws ❹ and lift up the Main PCB ❺.

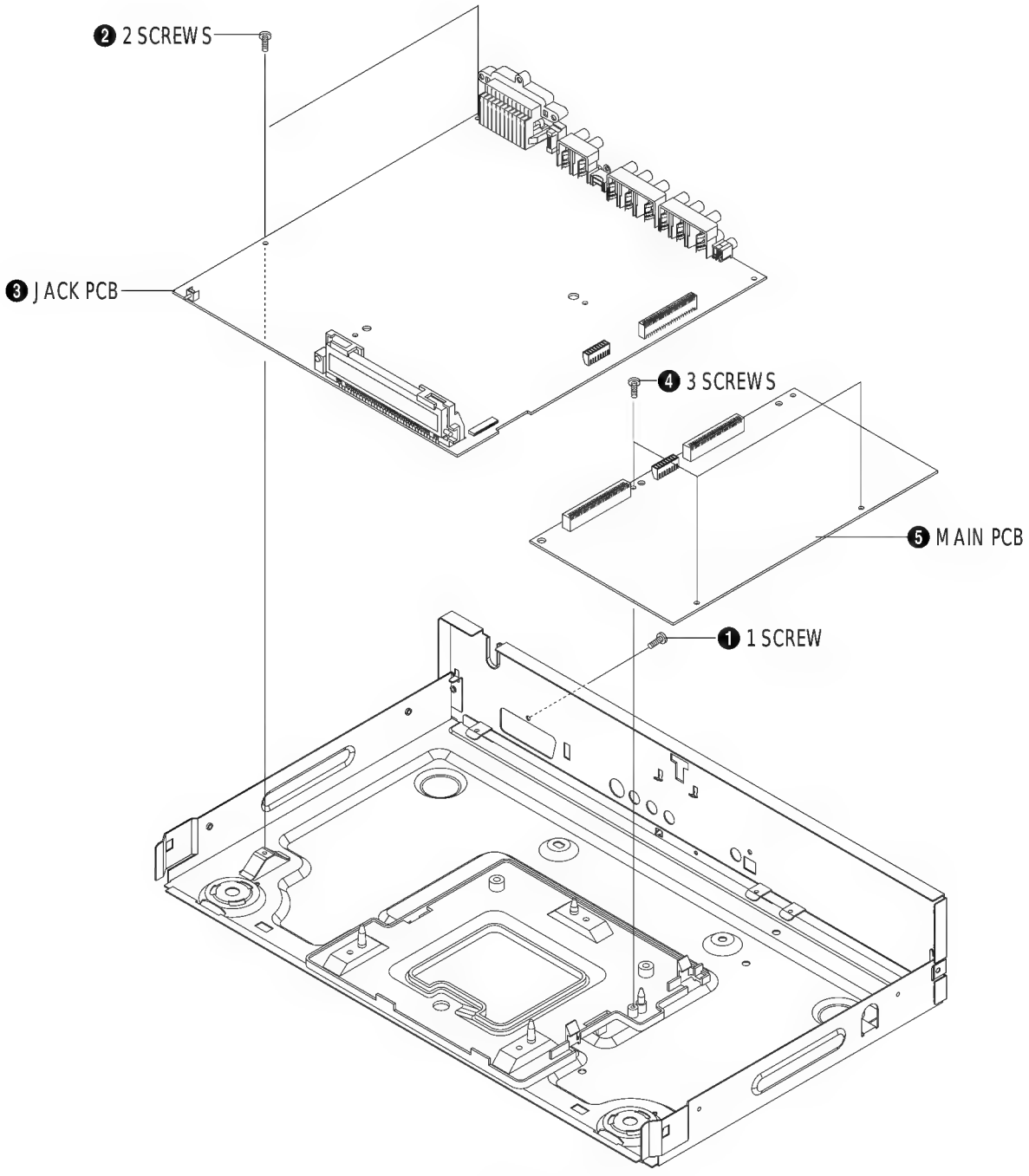



Fig. 4-5 Main PCB, Jack PCB Removal

## 4-2 PCB Location

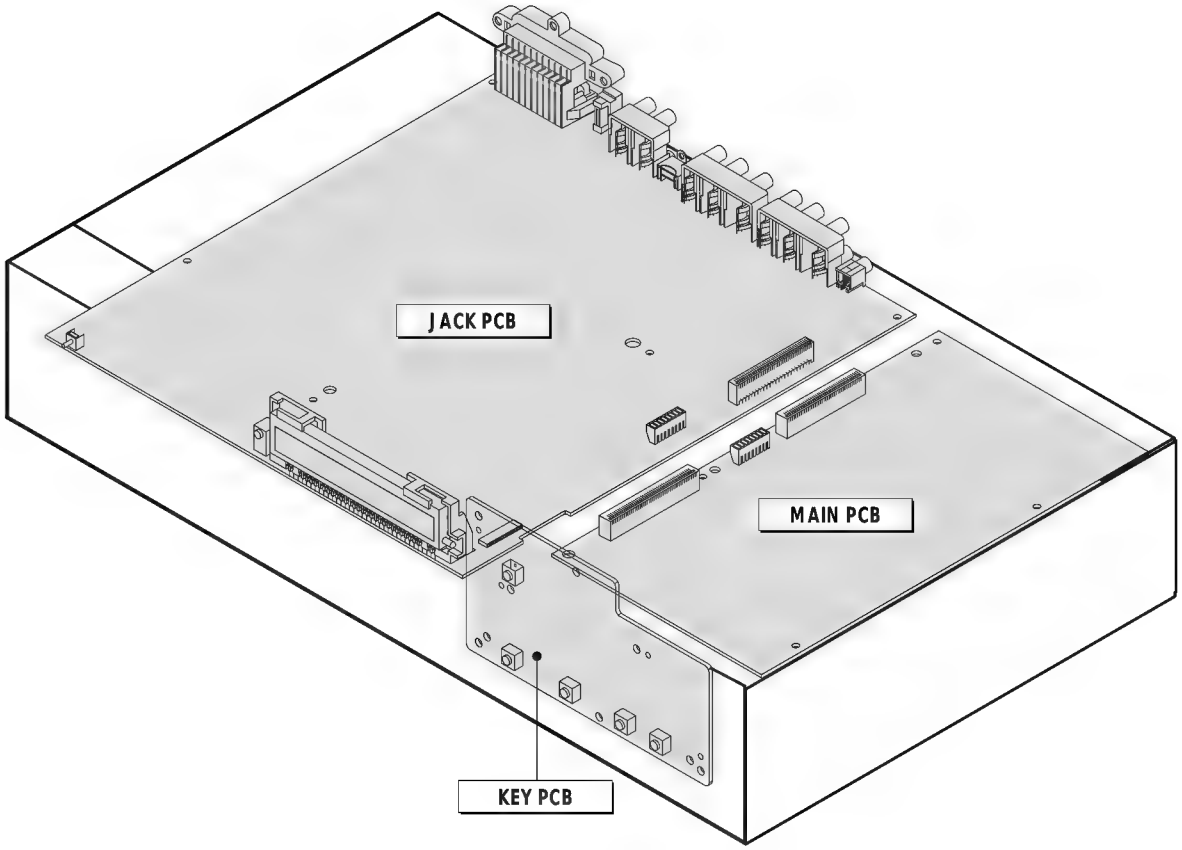
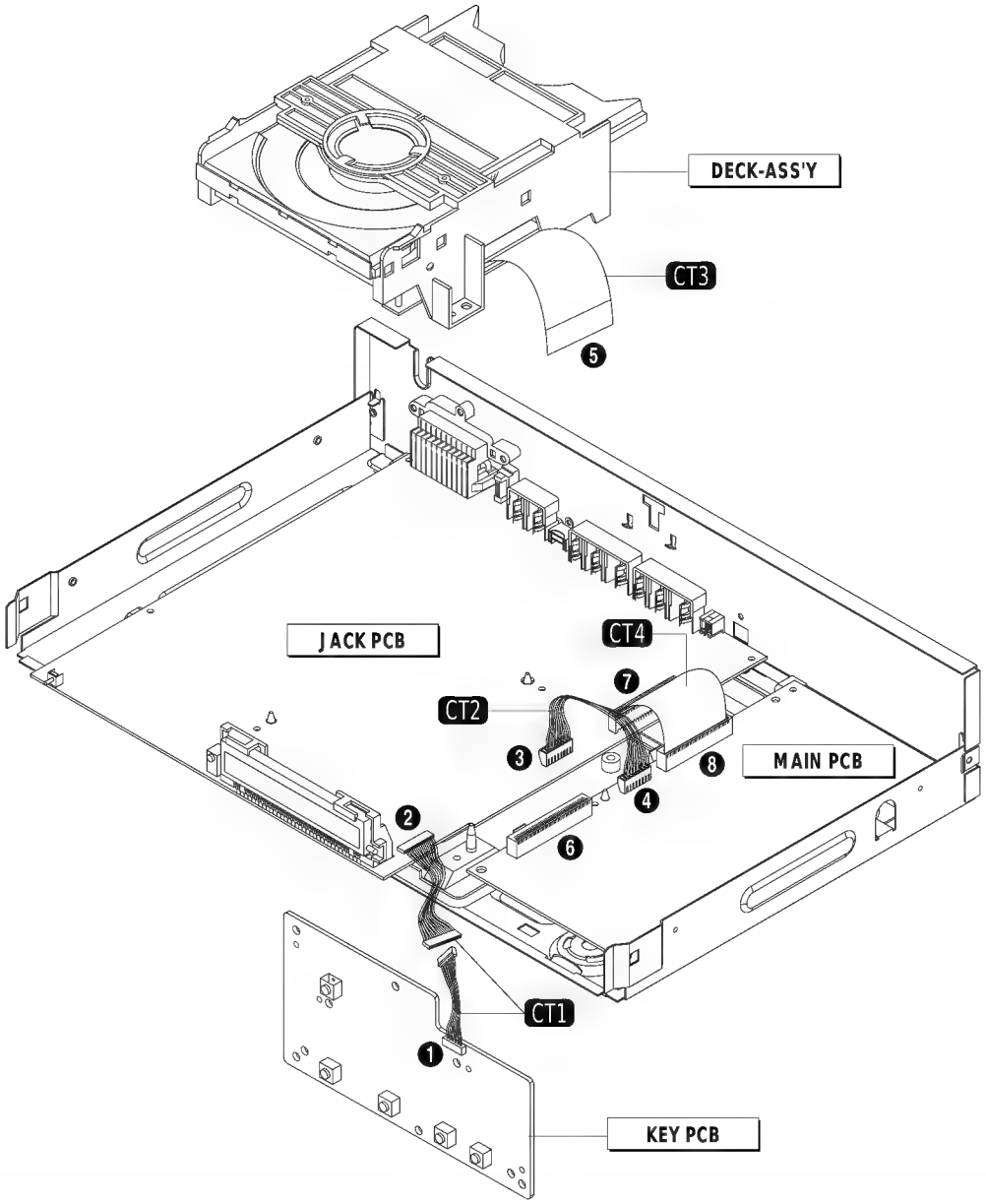



Fig. 4-6 PCB Location

## 4-3 Connector Diagram




| NO. | CONNECTOR NO. | DIRECTION | CONNECTOR NO. | NO. |
|---|---|---|---|---|
| 1 | CON21 | KEY PCB ◄ CT1 ► JACK PCB | CN2 | 2 |
| 3 | PCNS1 | JACK PCB ◄ CT2 ► MAIN PCB | PCN1 | 4 |
| 5 | FPC | DECK-ASS'Y ◄ CT3 ► MAIN PCB | DCN1 | 6 |
| 7 | CN1 | JACK PCB ◄ CT4 ► MAIN PCB | CN8 | 8 |

Fig. 4-7 Connector Diagram

# 4-4 Deck

## 4-4-1 PCB Deck Ass'y and Ass'y P/U Deck Removal

1) Remove the soldering of SLED+, SLED- ❶ and TM+, TM- ❷.
2) Disconnect CN3 ❸, CN2 ❹.
3) Remove 1 Screw ❺ and lift up the PCB Deck ❻.
4) Remove 1 Screw ❼.
5) Push the Hook ❽ in the direction of arrow "A" and lift up the Ass'y P/U Deck ❾ in direction of arrow "B".

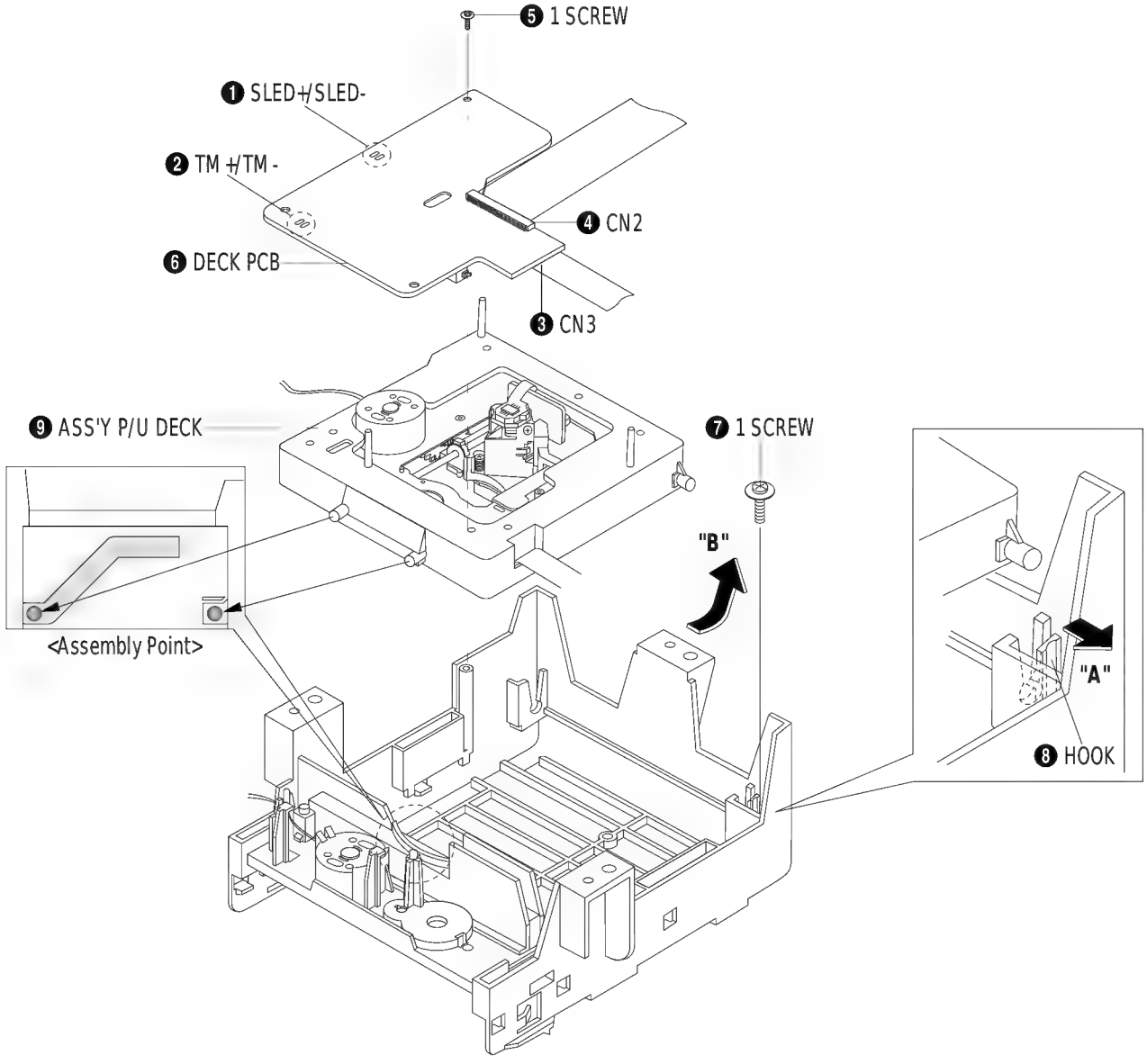



Fig. 4-8 PCB Deck Ass'y and Ass'y P/U Deck Removal

## 4-4-2 Tray Disc Removal

1) Insert a Screw Driver ❶ into Emergency Hole ❷ and push the Sider Housing ❸ in the direction arrow "A".
2) When the Tray Disc ❹ comes out little, pull it in the direction arrow "B" by hand.
3) Pull the Tray Disc ❹ to disassemble , while simultaneously pushing 2 Stoppers ❺ (left, right) in the direction arrow "C", "D".

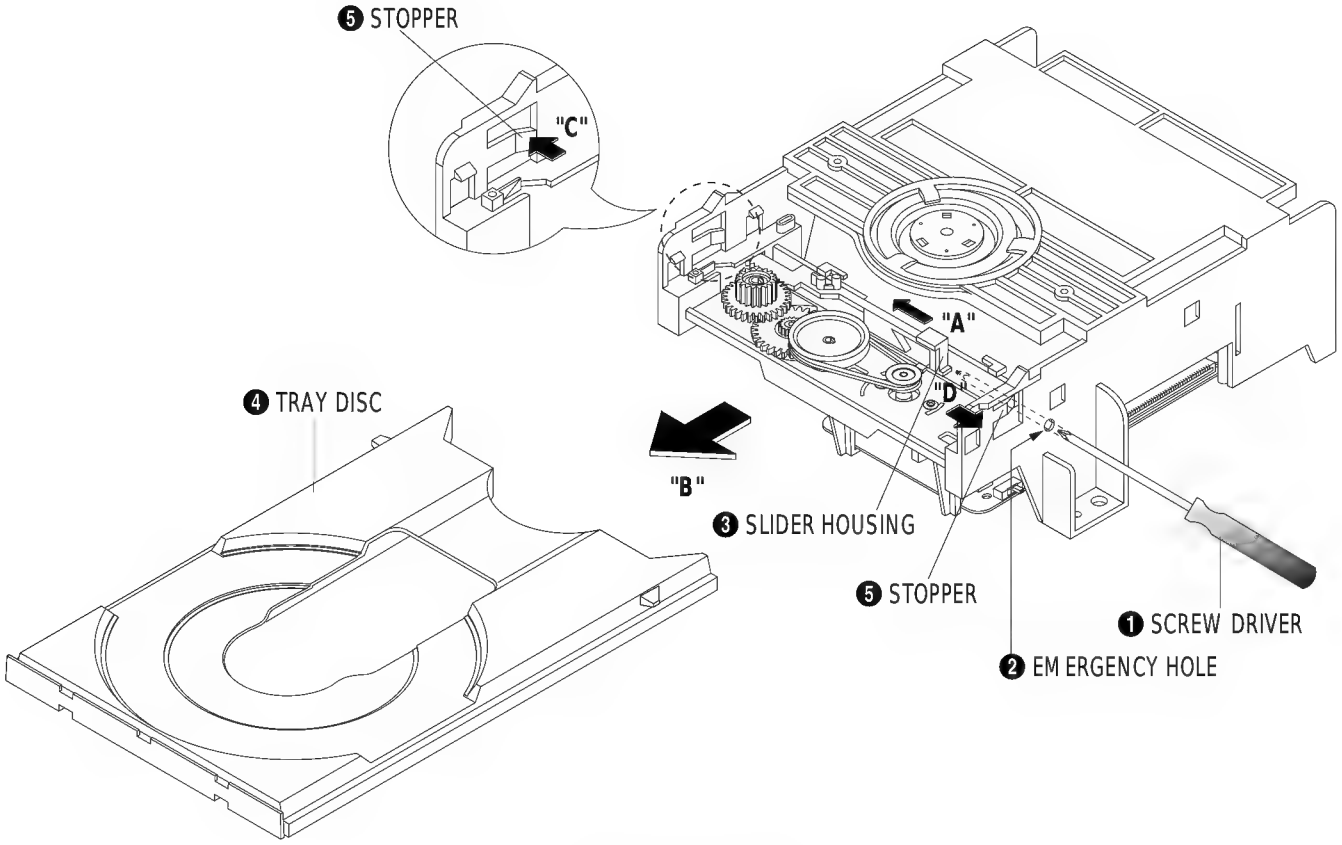
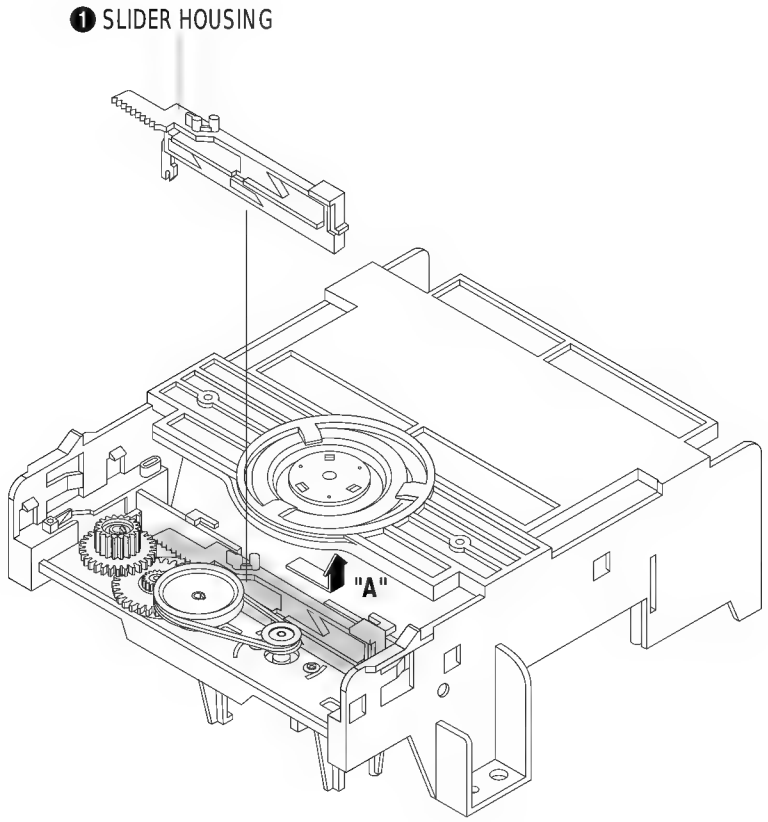



Fig. 4-9 Tray Disc Removal

## 4-4-3 Slider Housing Removal

1) Push the Slider Housing ❶ in the direction arrow "A".
2) Lift up the Slider Housing ❶.



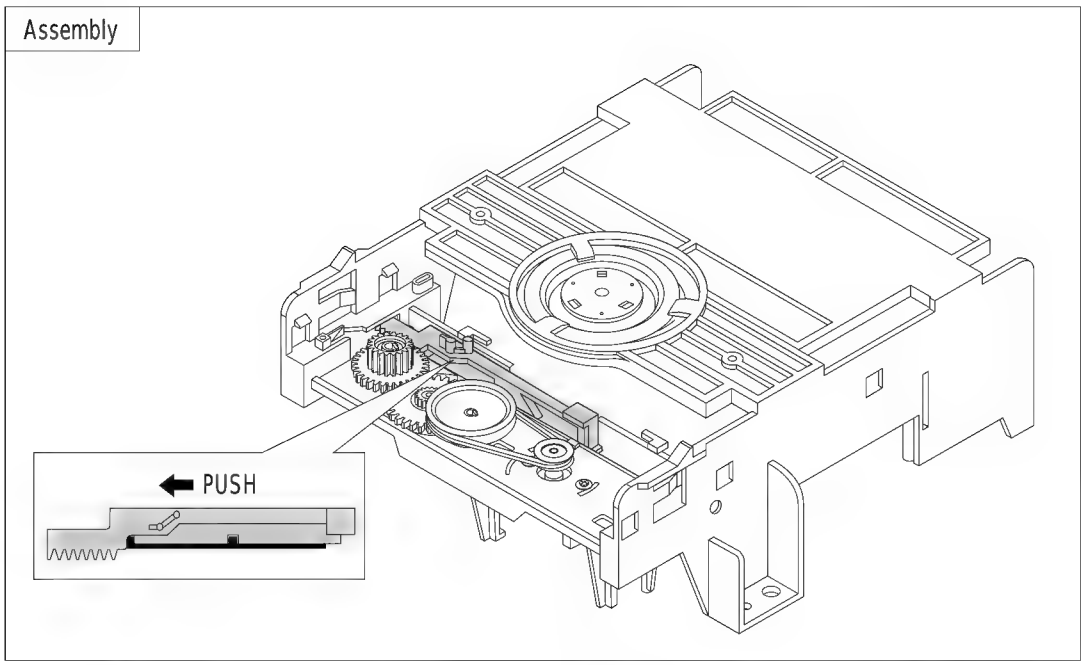




Fig. 4-10 Slider Housing Removal

## 4-4-4 Housing Ass'y Removal

1) Remove Belt ❶ and 1 Screw ❷.
2) Remove 1 Screw ❸ and lift up the Pulley Gear ❹.
3) Push the Hook ❺ in the direction arrow "A" and lift up Gear Tray ❻, Gear Housing ❼.
4) Push the 4 Hooks ❽ bottom side in the direction arrow "B" and lift up the Motor Load Ass'y ❾.
5) Remove Clamper Ass'y ❿.

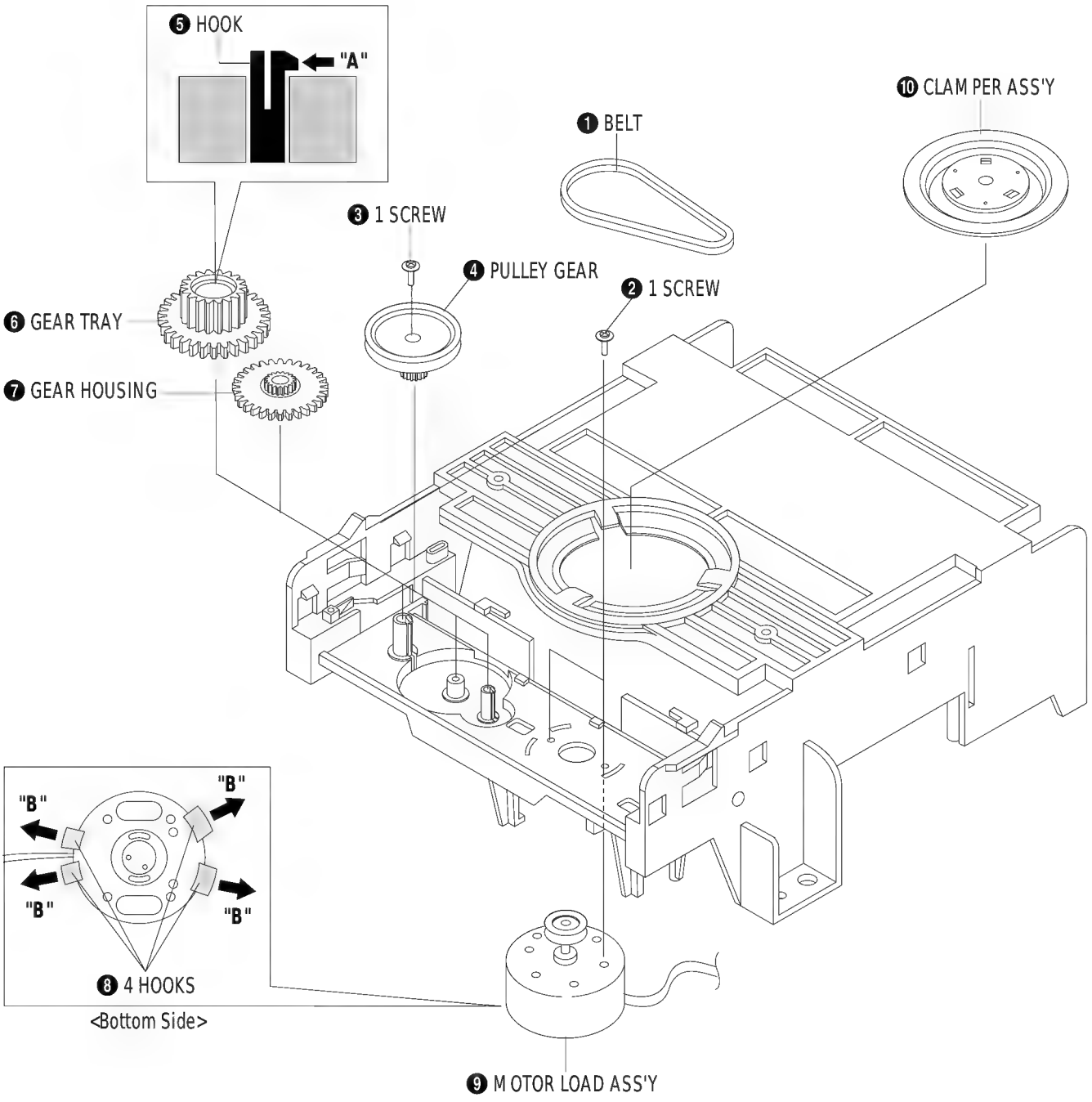



Fig. 4-11 Housing Ass'y Removal

## 4-4-5 Sub Chassis Removal

1) Remove the 4 Screws ❶.
2) Lift up the Ass'y Brkt Deck ❷.

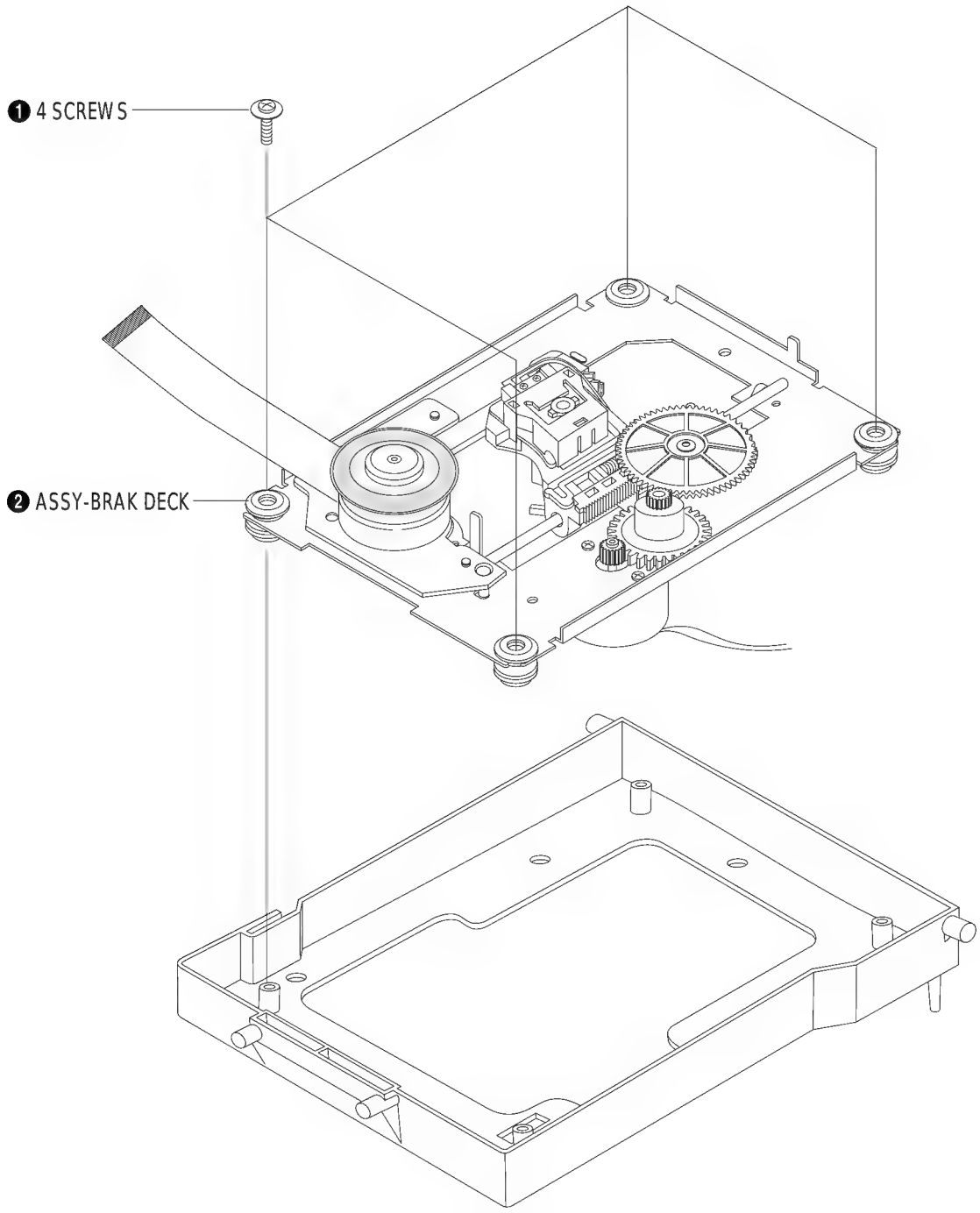



Fig. 4-12 Sub Chassis Removal

## 4-4-6 Ass'y Brkt Deck Removal

1) Remove Washer ❶.
2) Remove Gear Feed B ❷ , Gear Feed A ❸.
3) Remove 2 Screws ❹.
4) Remove Shaft Pick-Up ❺ and Pick-Up Assy ❻.
5) Remove 1 Screw ❼.
6) Remove 2 Screws ❽.
7) Remove 3 Spring Spindle ❾ and Motor Spindle Ass'y ❿.

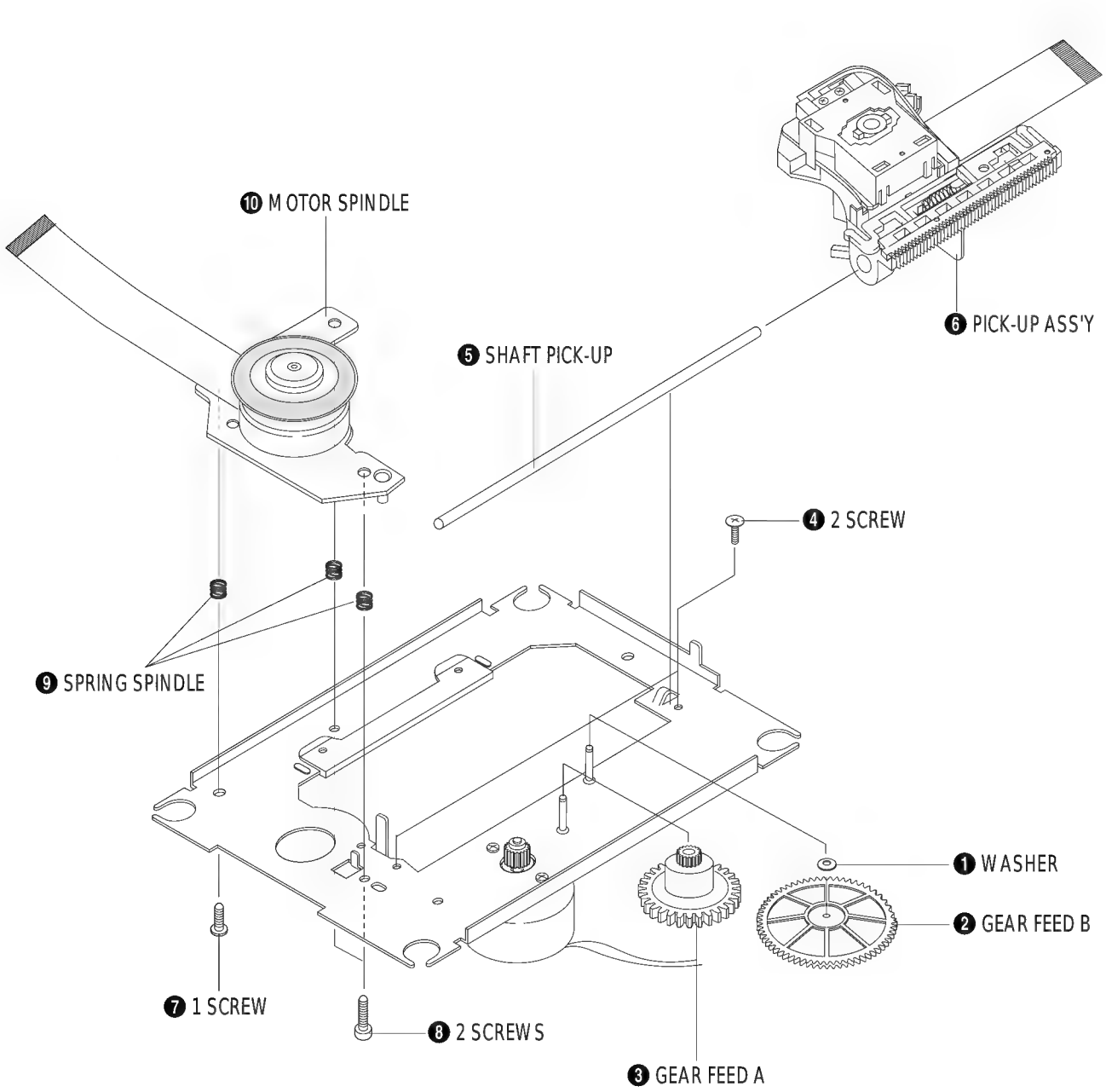



Fig. 4-13 Ass'y Brkt Deck Removal

# MEMO

# 5. Circuit Descriptions

## 5-1 S.M.P.S.

### 5-1-1 Comparsion between Linear Power Supply and S.M.P.S.

5-1-1 (a) Linear

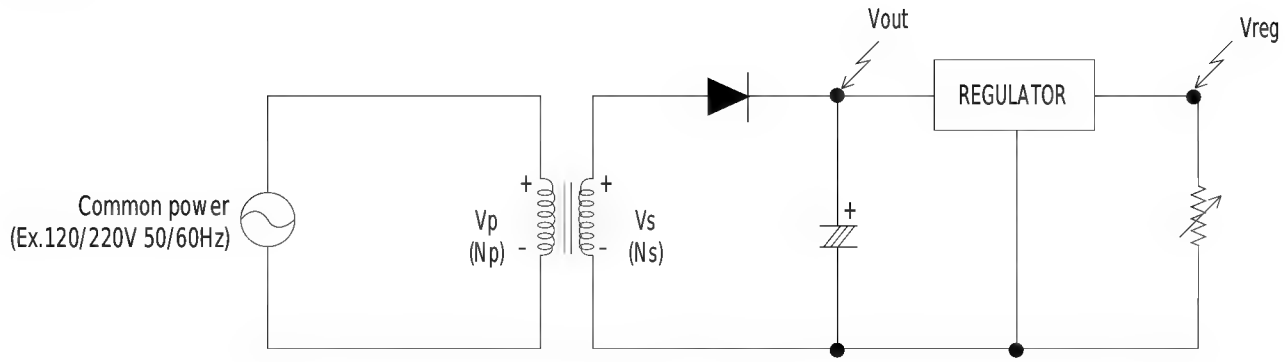



Fig. 5-1 Linear Power Supply

◆ Waveform/Description

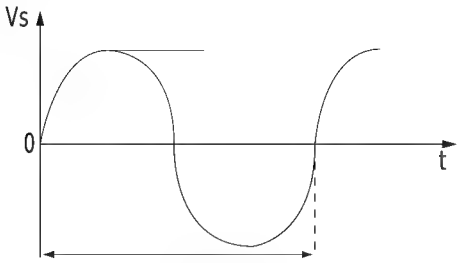



Fig. 5-2

Input : Common power to transformer (Vp).

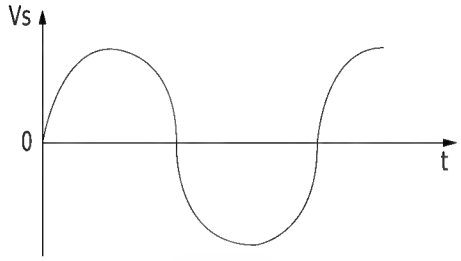



Fig. 5-3

The output Vs of transformer is determined by the ratio of 1st Np and 2nd Ns.
Vs = (Ns/Np) x Vp

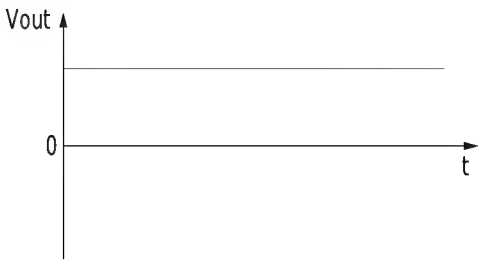



Fig. 5-4

Vout is output (DC) by diode and condensor.

◆ Advantages and disadvantages of linear power supply

1) Advantages : Little noise because the output waveform of transformer is sine wave.

2) Disadvantages :
   ❶ Additional margin is required because Vs is changed (depending on power source). (The regulator loss is caused by margin design).
   ❷ Greater core size and condensor capacity are needed, because the transformer works on a single power frequency.

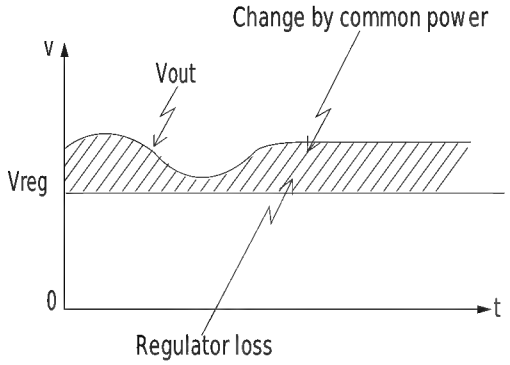



Fig. 5-5

5-1-1 (b) S.M.P.S. (Pulse width modulation method)

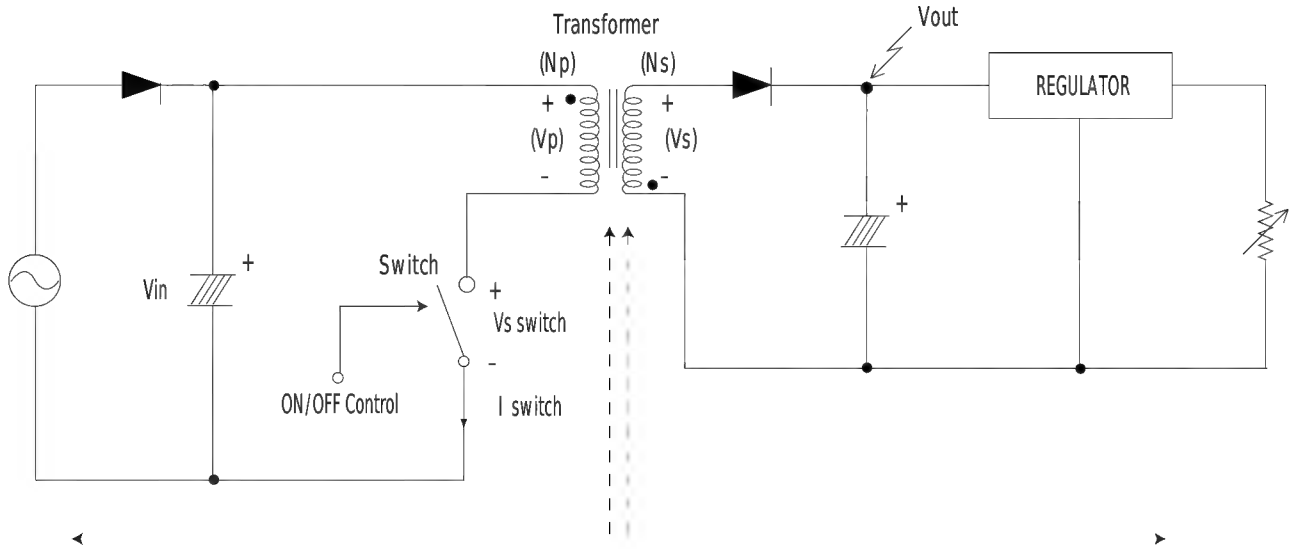



Fig. 5-6

◆ Terms

1) 1st : Common power input to 1st winding.
2) 2nd : Circuit followings output winding of transformer.
3) f (Frequency) : Switching frequency (T : Switching cycle)
4) Duty : (Ton/T) x 100

## 5-1-2 Circuit description (FLY-Back PWM (Plise Width Modulation) Control)

### 5-1-2 (a) AC Power Rectification/Smoothing Terminal

1) PDS01,PDS02,PDS03,PDS04 : Convert AC power to DC(Wave rectification)
2) PEF10 : Smooth the voltage converted to DC(Refer to VIN of Fig. 5-7)
3) PLF01, PLS01, PCF01, PCF02, PCD01, PCD03, PCS03 : Noise removal at power input/output
4) PVA1 : SMPS protection at power surge input (PVA1 pattern open is to remove noise)
5) PR10 : Rush current limit resistance at the moment of power cord insertion.
   ❶ Rush current = (AC input voltage x 1.414 - Diode drop voltage) / Pattern resistance + PLF01, PLS01 resistance + PCD01 resistance + PRF10) (AC230V based : approx. 26A)
   ❷ Without PRF10, the bridge diode might be damaged as the rush current increases.

### 5-1-2 (b) SNUBBER Circuit : PRS11, PRS12, PRD12, PCD12, PDS11, PCF11

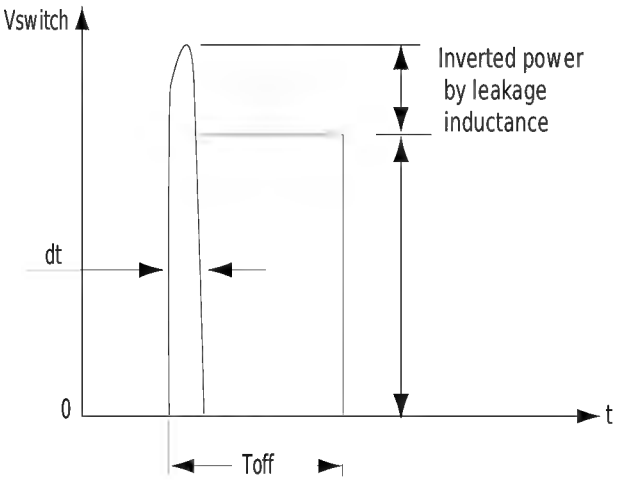



Fig. 5-7

1) Prevent residual high voltage at the terminals of switch during switch off/Suppress noise.
   High inverted power occurs at switch off, because of the 1st winding of transformer :
   (V= LI xdi/dt. LI : Leakage Induction)
   A very high residual voltage exists on both terminals of PICF1 because dt is a very short.

2) SNUBBER circuit protects PICF1 from damage through leakage voltage suppression by RC, (Charges the leakage voltage to PDS11 and PCF11, and discharges to PRS11 and PRS12).

3) PCD12, PRD12 : For noise removal

### 5-1-2 (c) PICF1 Vcc circuit

1) PCD11, PCF12, PCF13, PCF14 : PICF1 driving resistance
   (PICF1 works through driving resistance at power cord in)
2) PICF1 Vcc : PDF13, PRF16, PEF12
   ❶ Use the output of transformer as Vcc, because the current starts to flow into transformer while PICF1 is active.
   ❷ Rectify to PDF13 and smooth to PEF12.
   ❸ Use the output of transformer as PICF1 Vcc : The loads are different before and after PICF1 driving.
   (Vcc of PICF1 decreases below OFF voltage, using only the resistance due to load increase after PICF1 driving.)

## 5-1-2 (d) Feedback Control Circuit

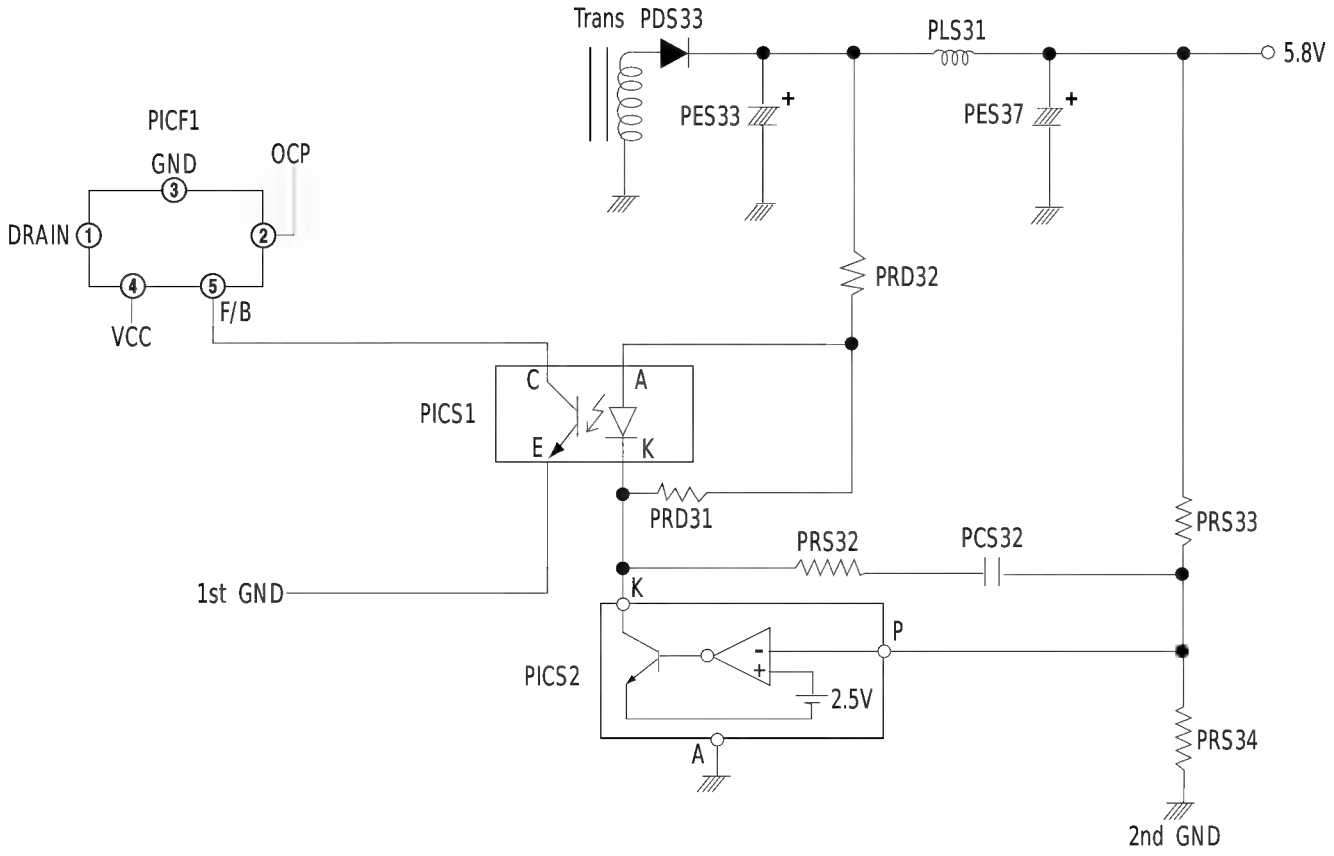



Fig. 5-8

1) F/B terminal of PICF1 determines output duty cycle.
2) C-E(Collector-Emitter) of PICS1 and F/B potential of PICF1 are same.

### Operation descriptions

1) Internal OP-Amp '+' base potential of PICS2 is 2.5V and external "-" input potential is connected with PRS33 and PRS34 to maintain Vout of 5.8V. (Vout = ((PRS38 x PRS34) / PRS34) x 2.5V)
2) If load of 5.8 V terminal increases(or AC input voltage decreases) and Vout decreases below 5.8V, then : PICS2 "P" potential down below 2.5V --> PICS2 A-K of base current down --> PICS2 of A-K current down --> PICS1 Diode current down --> PICS1 C-E current down --> PICS1 C-E voltage up --> PICF1 F/B voltage up --> Out Duty up --> Transformer 1st current up --> Transformer 1st power up --> Vout up --> Maintain Vout 5.8V
3) If load of 5.8 V terminal decreases(or AC input voltage rises) and Vout rises above 5.8V, then : Reverse sequence of the above description --> Duty down --> Vout down --> Maintain 5.8V (i.e., the feedback to maintains 5.8V).

❶ PRD31, PRD32 : Reduce 5.8V overshoot
❷ PRS32, PCS32 : Prevent PICS2 oscillation(for phase correction)

## 5-1-3 Internal Block Diagram

5-1-3 (a) Internal Block Diagram of S.M.P.S. Circuit

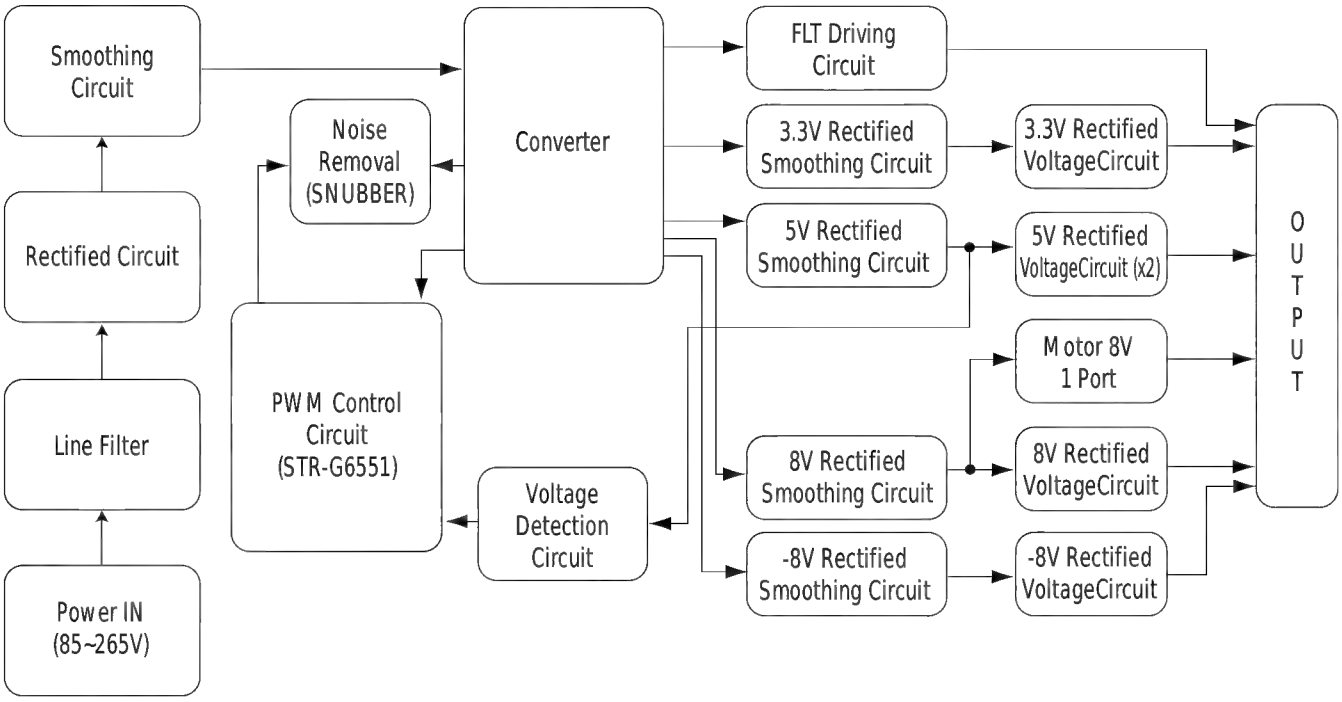



Fig. 5-9

5-1-3 (b) PICF1 (STR-G6551) Internal Block Diagram

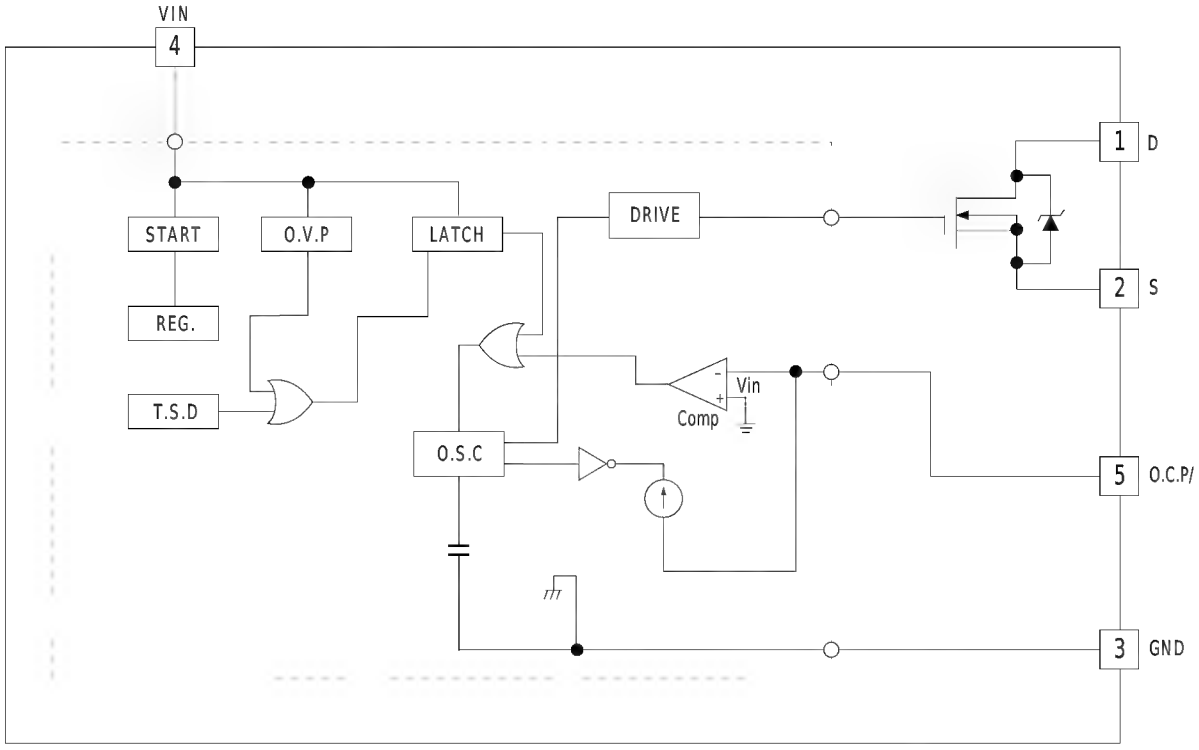



Fig. 5-10

# 5-2 RF

## 5-2-1 RIC1 (KS1461)

KS1461 is combined with KS1452 and KS1453 as bipolar IC developed for DVD SERVO system.
Main features include DVD waveform equalizing, CD waveform equalizing, focus error signal generation, 3-beam tracking error signal generation, DPD 1-beam tracking error, defect, envelope, MIRR output, etc. after receiving the pick-up output converted into I/V.

### 5-2-1 (a) Basic Potentiometer

KS1461 uses a single power method and each circuit is based on V of 2.5V.
V (Pin 12, 20, 24, 67) terminal is needed for IC, which uses the peripheral V.

### 5-2-1(b) RF signal

Fig. 5-11 shows the flow of signal generated by the pick-up.
A, B, C, D signals detected from pick-up are converted in to RF signal(A+B+C+D) via RF summing AMP.

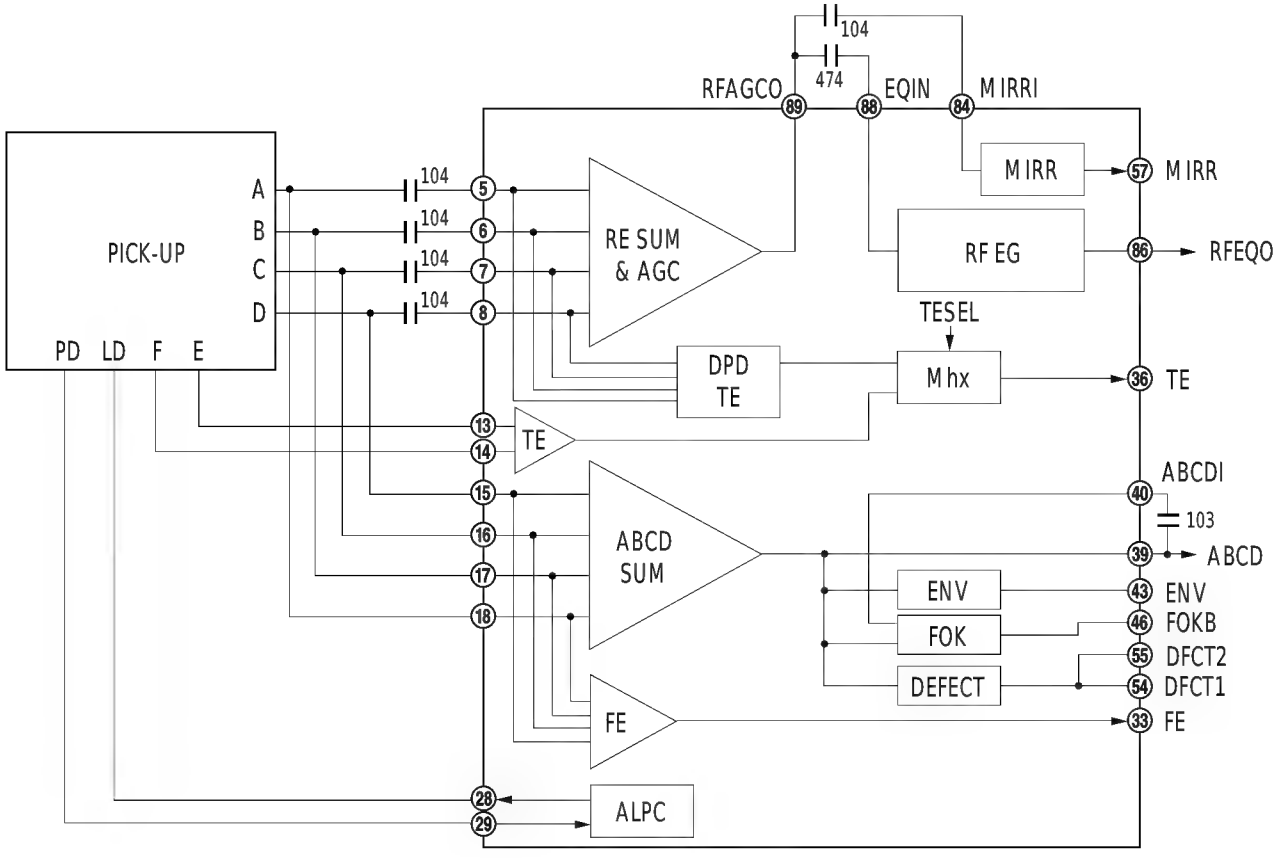



Fig. 5-11

Fig. 5-12 shows the waveform-equalizing block diagram for the RF signal.
It outputs to EQout (Pin 86) terminal by initially changing switching AMP gain of DVD and CD, and then adjusting the level in RF SUM & AGC. It controls RF SUM & AGC gain by means of Pin 89-95 and interfaces with PWM signal, (output from PWM terminal of KS1453, via low-pass filter to adjust boost gain and peak frequency.

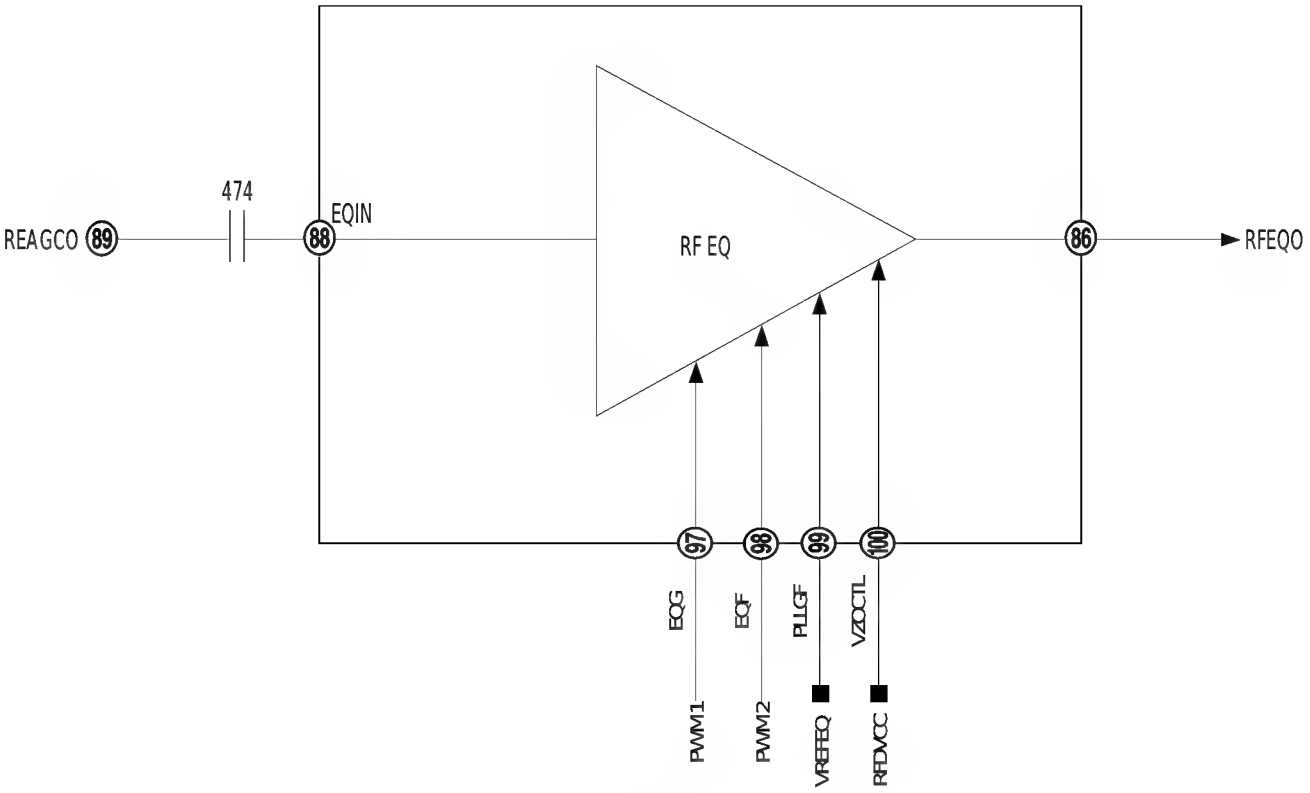



Fig. 5-12

The control parameters of DVD EQ and CD EQ are as follows.

1) DVD CD EQ control parameter

❶ EQG (Pin 97) : Changes the gain of peak frequency with EQ frequency characteristic. Convert PWM signal, output from KS1453, into DC via low-pass filter.

❷ EQF (Pin 98) : Changes the peak frequency with EQ frequency characteristic. Convert PWM signal, output from KS1453, into DVD via low-pass filter.

# 5-3 System Control

## 5-3-1 Outline

The main micom peripheral circuit is composed of 16bit Micom (MIC1 ; TMP95C265), 8M EPROM (MIC2 ; M27C801) for Microcode and data save, 256 byte EE-PROM (MIC4 ; KS24C020) for permanent storage of data needed at power off.
The Micom (MIC1 ; TMP95C265) mounted in main board analizes the key commands of front panel or instructions of remote control through communication with Micom (FIC1 ; LC86P6232) of front and controls the devices on board to execute the corresponding commands after initializing the devices connected with micom on board at power on.

## 5-3-2 Block Diagram

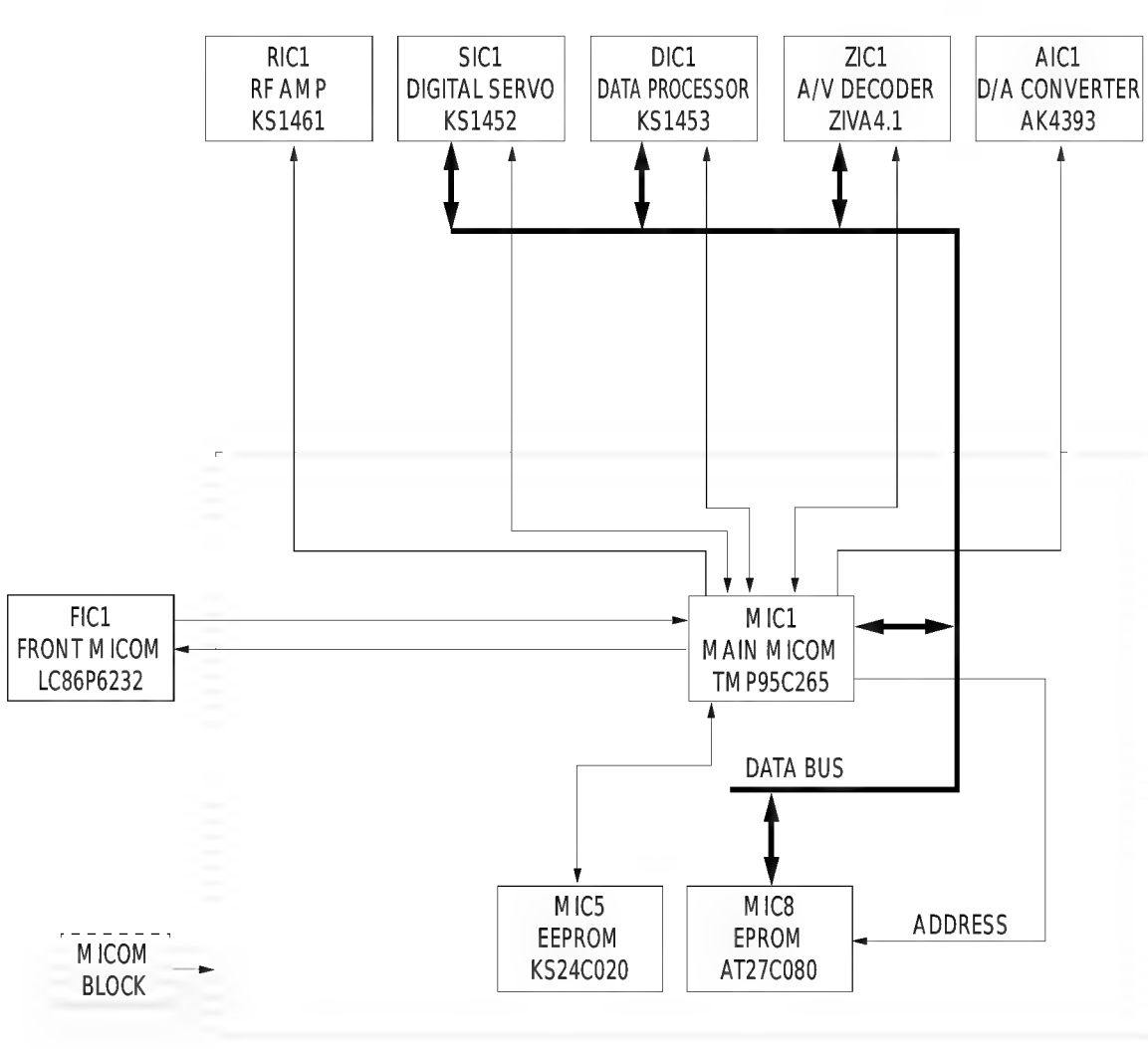



Fig. 5-13

## 5-3-3 Waveform Description

When micom accesses each device sharing bus, it falls the chip select signal of corresponding chip to (/CS1:MIC3-22, /CS2:MIC2-22, /DSPCS:DIC1-2, /DVD1CS:ZIC1-208, CSB:SIC1-10) 0 (Low) before trial.
So to speak, the bus is used by time-division as shown in Fig 5-14, 5-15, 5-16.
Two and more devices can't be accessed simultaneously.

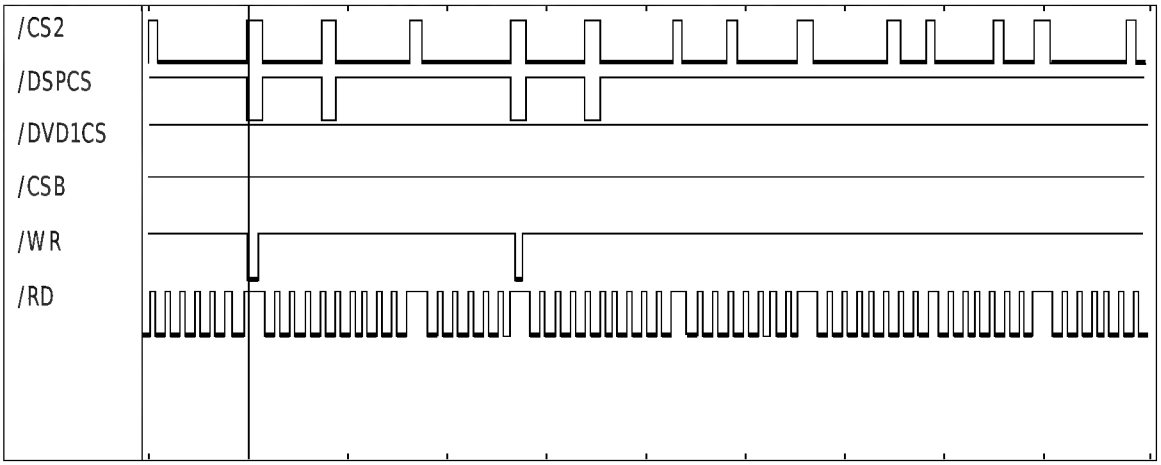



Fig. 5-14

- CH1 : CS2 (MIC2-22, EPROM CHIP SELECT)
- CH2 : DSPCS (DIC1-2, DATA PROCESSOR CHIP SELECT)
- CH3 : DVD1CS (ZIC1-208, A/V DECODER CHIP SELECT)
- CH4 : SRVCS (SIC1-10, DIGITAL SERVO CHIP SELECT)
- CH5 : WR (MIC1-89, MICOM OUTPUT WRITE SIGNAL)
- CH6 : RD (MIC1-88, MICOM OUTPUT READ SIGNAL)

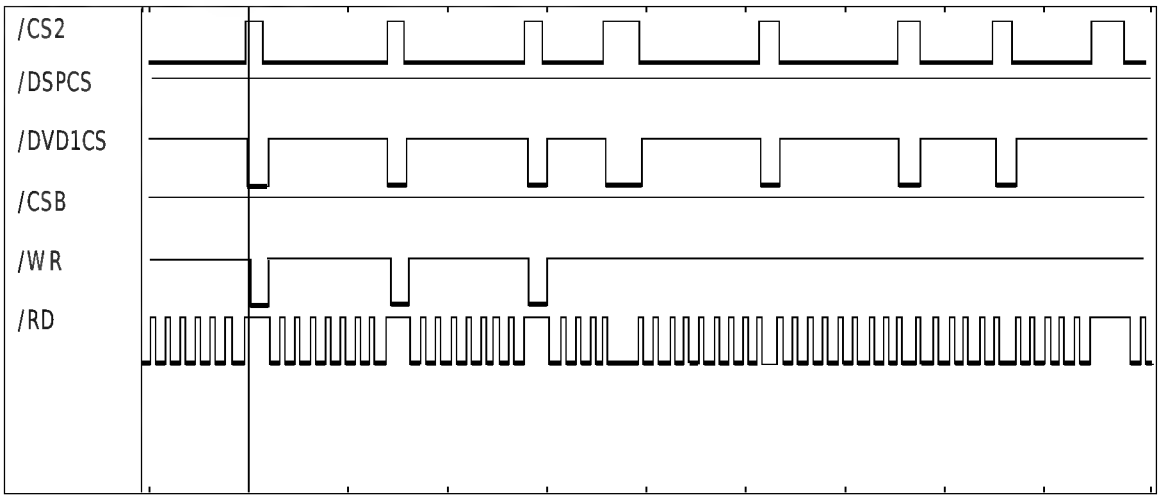



Fig. 5-15 DSP Access

- CH1 : CS2 (MIC2-22, EPROM CHIP SELECT)
- CH2 : DSPCS (DIC1-2, DATA PROCESSOR CHIP SELECT)
- CH3 : DVD1CS (ZIC1-208, A/V DECODER CHIP SELECT)
- CH4 : SRVCS (SIC1-10, DIGITAL SERVO CHIP SELECT)
- CH5 : WR (MIC1-89, MICOM OUTPUT WRITE SIGNAL)
- CH6 : RD (MIC1-88, MICOM OUTPUT READ SIGNAL)

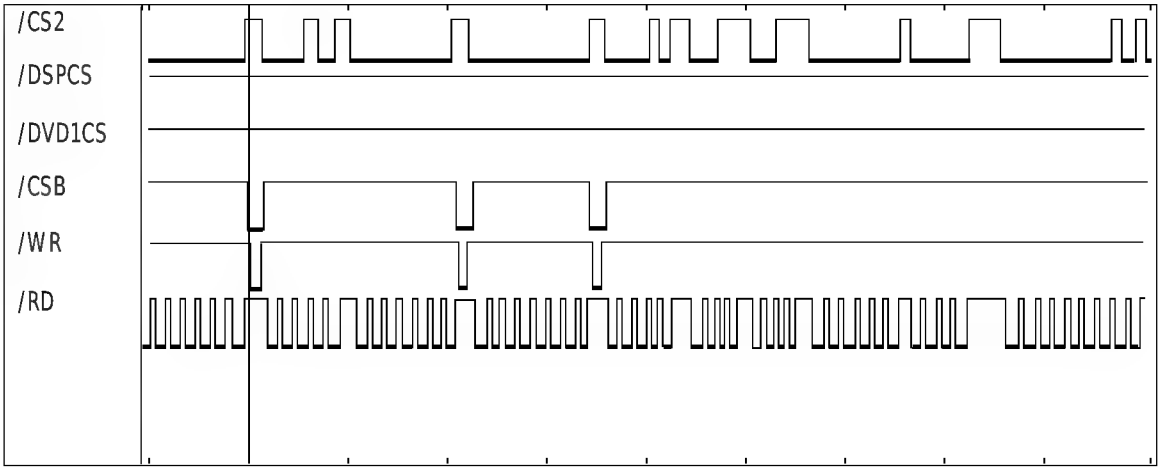



Fig. 5-16 Servo Access

- CH1 : CS2 (MIC2-22, EPROM CHIP SELECT)
- CH2 : DSPCS (DIC1-2, DATA PROCESSOR CHIP SELECT)
- CH3 : DVD1CS (ZIC1-208, A/V DECODER CHIP SELECT)
- CH4 : SRVCS (SIC1-10, DIGITAL SERVO CHIP SELECT)
- CH5 : WR (MIC1-89, MICOM OUTPUT WRITE SIGNAL)
- CH6 : RD (MIC1-88, MICOM OUTPUT READ SIGNAL)

# 5-4 Servo

## 5-4-1 Outline

SERVO system of DVD is divided into Focusing SERVO, Tracking SERVO, SLED Linked SERVO and CLV SERVO (DISC Motor Control SERVO).

1) Focusing SERVO
Focuses the optical spot output from object lens onto the disc surface. Maintains a uniform distance between object lens of Pick-up and disc (for surface vibration of disc).

2) Tracking SERVO
Make the object lens follow the disc track in use of tracking error signal (created from Pick-up).

3) SLED Linked SERVO
When the tracking actuator inclines outwardly as the object lens follows the track during play, the SLED motor moves slightly (and counteracts the incline).

4) CLV SERVO (DISC Motor Control SERVO)
Controls the disc motor to maintain a constant linear velocity (necessary for RF signal).

## 5-4-2 Block Diagram

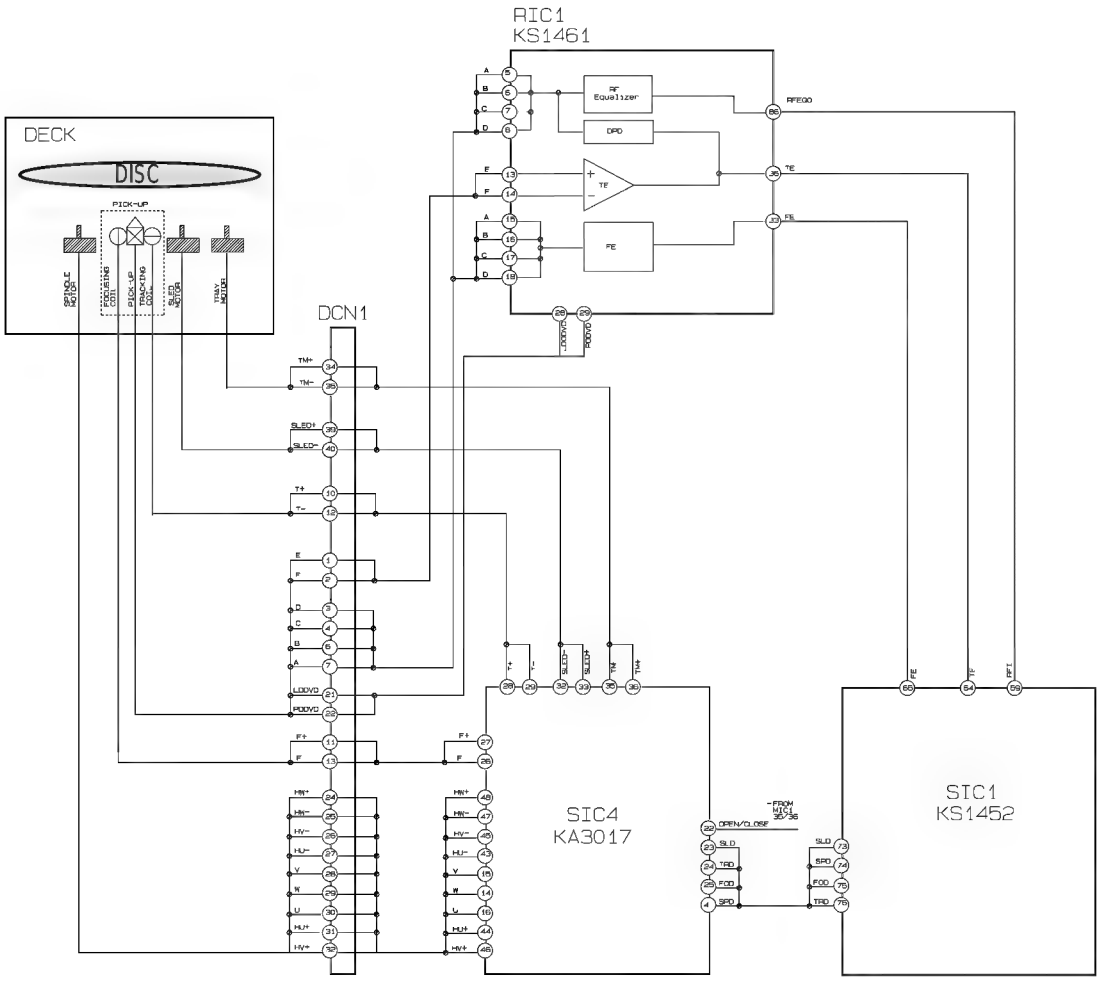



Fig. 5-17

## 5-4-3 Operation

### 1) FOCUSING SERVO

#### (1) FOCUS INPUT

The focus loop is changed from open loop to closed loop, and the triangular waveform moves the object lens up and down (at pin 75 of SIC1 during Focus SERVO ON.) At that time, S curve is input to pin 65 of SIC1.

ABAD (pin 39 of RIC1) signal, summing signal of PD A, B, C, D, is generated, and zero cross(2.5V) point occurs when S curve is focused and ABAD signal exceeds a preset,constant value. The focus loop is changed to closed loop, and the object lens follows the disc movement, maintaining a constant distance from the disc. (these operations are same in CD and DVD).

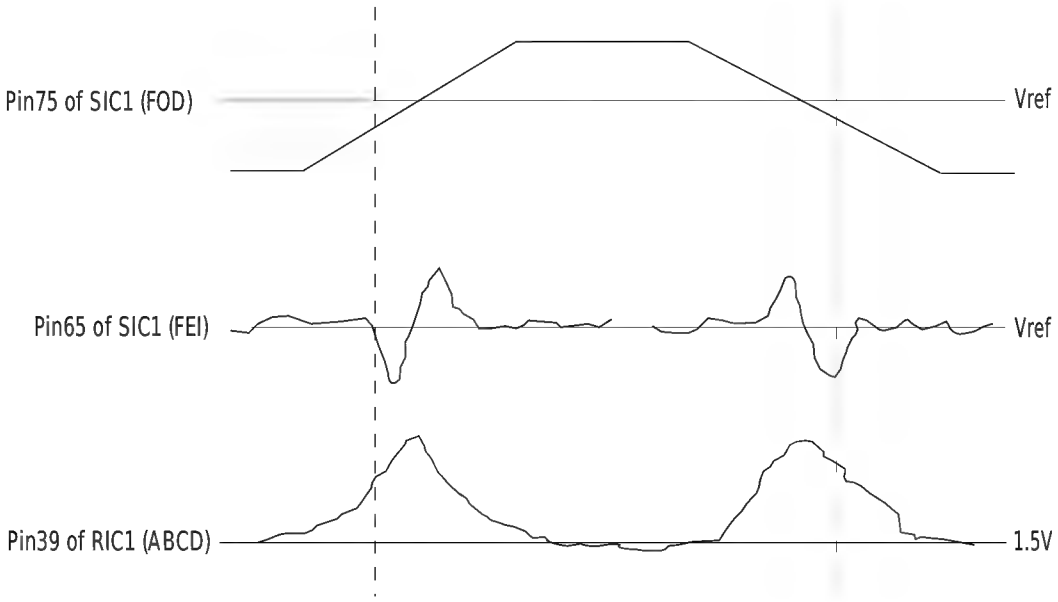



Fig. 5-18

#### (2) PLAY

When focus loop closes the loop during focus servo on, both pin 65 and pin 75 of SIC1 are controlled by VREF voltage (approx. 2.5V), and pin 26, 27 of SIC4 are approximately 4.5V.

### 2) TRACKING SERVO

#### (1) NORMAL PLAY MODE

❶ For DVD

Composite : The signal output from PD A, B, C, D of Pick-up, the tracking error signal (pin36 of RIC1) uses the phase difference of A+C and B+D in RIC1, and inputs to terminal 64 of SIC1. Then, it is output to SIC1 pin 76 via digital equalizer, and applied to the tracking actuator through SIC4.

Pins 76 of SIC1 is controlled by VREF(approx. 2.5V) during normal play.

Meanwhile, DVD repeats the track jump from 1 to 4 in inner direction at normal play (because data- read speed from disc is faster than data output speed on screen).

❷ For CD, VCD

Receive the signal output through E, F of Pick-up, from RIC1. The tracking error signal is similar to DVD.

(2) SEARCH Mode :

Search mode : Fine seek,(Moving the tracking actuator slightly little below 255 track) and coarse search, moving much in use of sled motor. The coarse search will be described in sled linked servo and now, the fine seek is explained shortly.
If the object lens is located near target, cut off the tracking loop and give the control signal as many as desired count to move the tracking actuator via SIC1 pin 76 terminal(TRD).

3) SLED LINKED SERVO

- Normal play mode
  Move SLED motor slightly by means of PWM signal in SIC1 pin 73, as the tracking actuator moves along with track during play. Control to move the entire Pick-up as the tracking actuator moves.

- Coarse serach mode
  In case of long-distance search (such as chapter serach), SIC1 uses MIRR and TZC signal of SIC1-38, 52.
  Then, read ID and compute the existing track count after input of next
  track. If the existing track count is within fine seek range, tracking begins using fine seek.

4) CLV SERVO(DISC MOTOR CONTROL SERVO)

Input RF signal (from Pick-up) to SIC1 pin 59. Detect SYNC signal from RF in SIC1, and output PWM signal to SIC1 pin 55 for constant linear velocity.

# 5-5 DVD Data Processor

## 5-5-1 Outline

DIC1(KS1453) performs Sync detection, EFM demodulation and error correction and Spindle motor control (CLV control) after inputting sliced EFM signal of RF signal at disc playback and EFM read clock (PLCK) signal generated from PLL. Outputs data which converted to the last audio and video from A/V decoder (ZIC1). KS1453 uses external memory(4M DRAM) as buffer as well as for error correction and carries out Variable Bit Rate transfer function. VBR function uses the external buffer as buffer to absorb the difference of transfer rate occurring because the transfer rate of disc playback is faster than data transfer rate demanded by A/V decoder(Video/Audio Signal Process Chip).
In case of general disc refresh, the memory is almost filled up periodically. It is because Write rate to memory after disc playback and signal process is faster than Read of A/V decoder. When the memory is filled, this status is reported by interrupt to main micom, which controls the servo to kick back the pick-up to the previous track after memorizing the last data read from disc until now. It takes some times to jump to the previous track and return to the original(jump location) again. The memory will have an empty space because A/V decoder reads out data of memory.
When the memory has an empty space, where data can be processed and written and the pick-up correctly gets to the original location(before kick back location) again, it reads data again avoids the interrupt of data read previously. The basic operation repeats to perform as described above.

## 5-5-2 Block Diagram

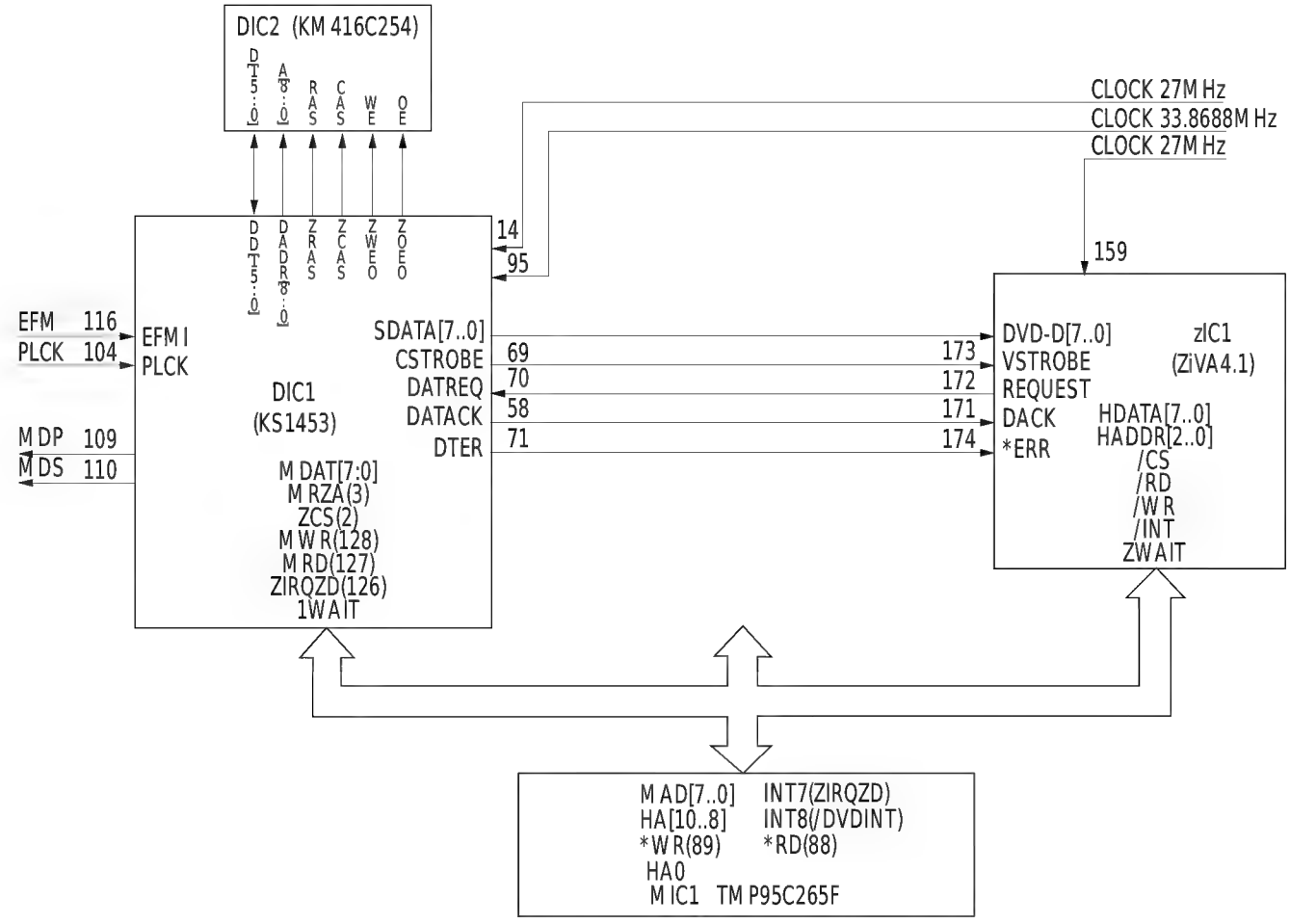



Fig. 5-19

## 5-5-3 Waveform Description

It measures the timing that data processed in DIC1 at DVD playback.

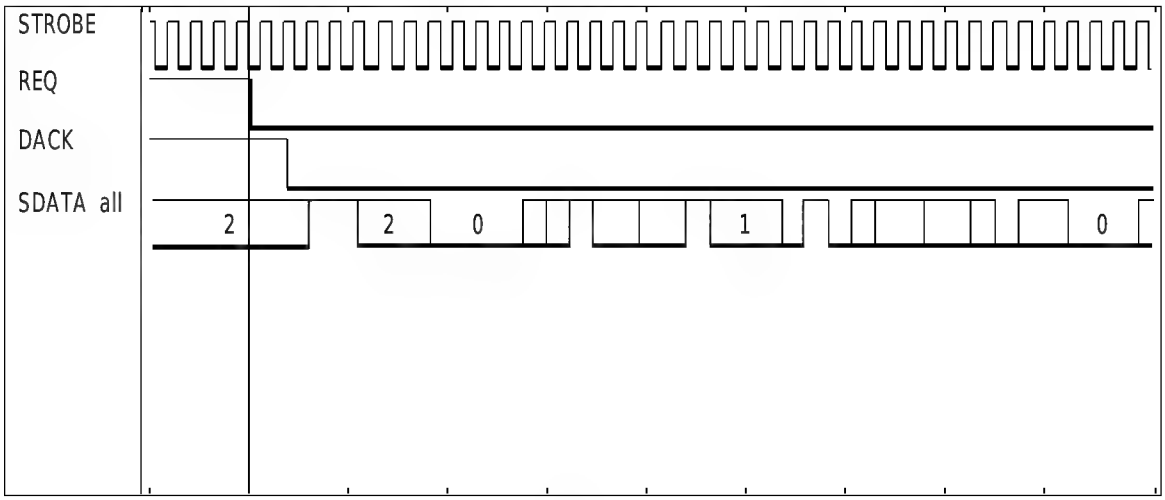



Fig. 5-20

- CH1 : STROBE (DIC1-69, CLOCK)
- CH2 : REQ (DIC1-70, DATA REQUEST)
- CH3 : DACK (DIC1-58, DATA ACKNOWLEDGE)
- CH4 : SDATA (DIC1-60~67, DATA)

# 5-6 Video

## 5-6-1 Outline

ZIC1(A/V decoder with video encoder) diverges from the 27MHz crystal, then generates VHSYNC and HSYNC.
ZIC1(A/V decoder with video encoder) does RGB encoding,copy guard processing and D/A conversion of 8bit video data internally inputted from video decoder block by MIC1 (Micom).
Video signal converted into analog signal is outputted via amplifier of analog part.

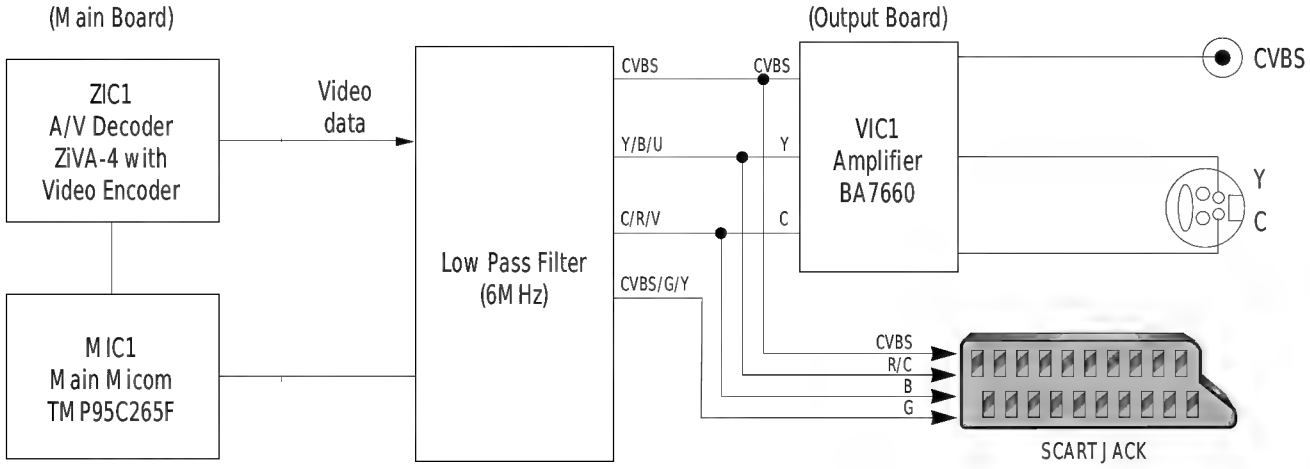



Fig. 6-21 Video Output Block Diagram

## 5-6-2 NTSC/PAL Digital Encoder (ZIVA-4.1 ; Buit in video encode)

ZIC1 inputted from pin 159 with 27MHz generates HSYNC and VSYNC which are based on video signal.
ZIC1 is synchronous signals with decoded video signal and control the output timing of 8bit video signal of ITU-R601 format.
The inputted 8bit data which decoded from video decoder block is demuxed with each 8bit of R, G, B.
The separate signal is encoded to NTSC/PAL by control of MIC1.
The above signals, which are CVBS(Composite Video Burst Synchronized)/G(GREEN)/Y[PIN139], Y(S_VIDEO)/B(BRUE)/Pb[PIN145] and C(S_VIDEO)/R(RED)/Pr[PIN151], are selectively outputted CVBS +S_VIDEO, R, G, B by the rear switch.
In Course of encoding,8bit data can extend to 10bit or more. To convert the extended data to quantization noise as possible,ZIC1 adopts 10bit D/A converter. ZIC1 perform video en-coding as well as copy protection.

## 5-6-3 Amplifier (VIC1, VIC2 : BA7660)

VIC1 and VIC2 are 6dB amplifier. Based on CVBS signal, the final output level must be 2Vpp without 75ohm terminal resitance. Because the level of video encoder output is only 1.1Vpp, the level is adjusted with the special amplifier. When mute of pin 1 is high active, if the pin is floating and connecte to power, the output isgnal is never outputted. CVBS, Y, C, R, G, B outputted from video encoder are inputted to VIC1 (Pin 7,Pin2,Pin4), and VIC2 (Pin 7,Pin 4,Pin 2) respectively and outputted from VIC1(Pin15,Pin13,Pin10) and VIC2 (Pin 15,Pin 13,Pin 10). Pin 9, Pin 12, Pin 14 of VIC1, VIC2 are feedback pin to SAG compensation (DC characteristic compensation of siganl).
The signal to which gain is adjusted by amplifier is outputted from jack via 75ohm Resistance (VR10~VR13, VR22~24).

## 5-6-4 Scart Jack Output

The SCJ1 of scart jacks is used for connecting a TV.
When the DVD player is turned on, the RGB, CVBS, or S-VIDEO is outputted to SCJ1.
Switching of power on/off is controlled by SCIC3.
The control signal (Pin 9,10,11) of SCIC3 is outputted from Pin 100 and pin 92 of FIC1 and the oin 9, 10 of SCIC3 is inverted again by SCQ8.
According to the characteristics that SCART Jack is supplied same pins for the output of CVBS signal and Y signal and for the R signal and C signal, SCIC3 lets the user select two signals in setup menu.
The signal selected by switch is amplified by SIC4 and SIC6 and outputted through the SCART jack.
The scart jack has the function select signal (Pin 8 of SCJ1) that the TV can select automatically RF and the external video signal.
SCQ3, SCQ7, SCQ18 and SCD4 are the circuit to point, FIC1 (Pin100, pin 94) controls. When the TV aspect ratio is 16:9 or 4:3, it is outputted 4.5 ~ 7V or 9.5 ~ 12V each. But, when the DVD video source is 16:9 and 16:9 wide is selected in setup menu, 4.5 ~ 7V is outputted. Otherwise, 9.5 ~ 12V is outputted.
RGB control signal (Pin 16 of SCJ1) is outputted that the TV can select between RGB and CVBS.
SCQ15, SCQ16 are for RGB control and controlled by FIC1 (Pin 91).

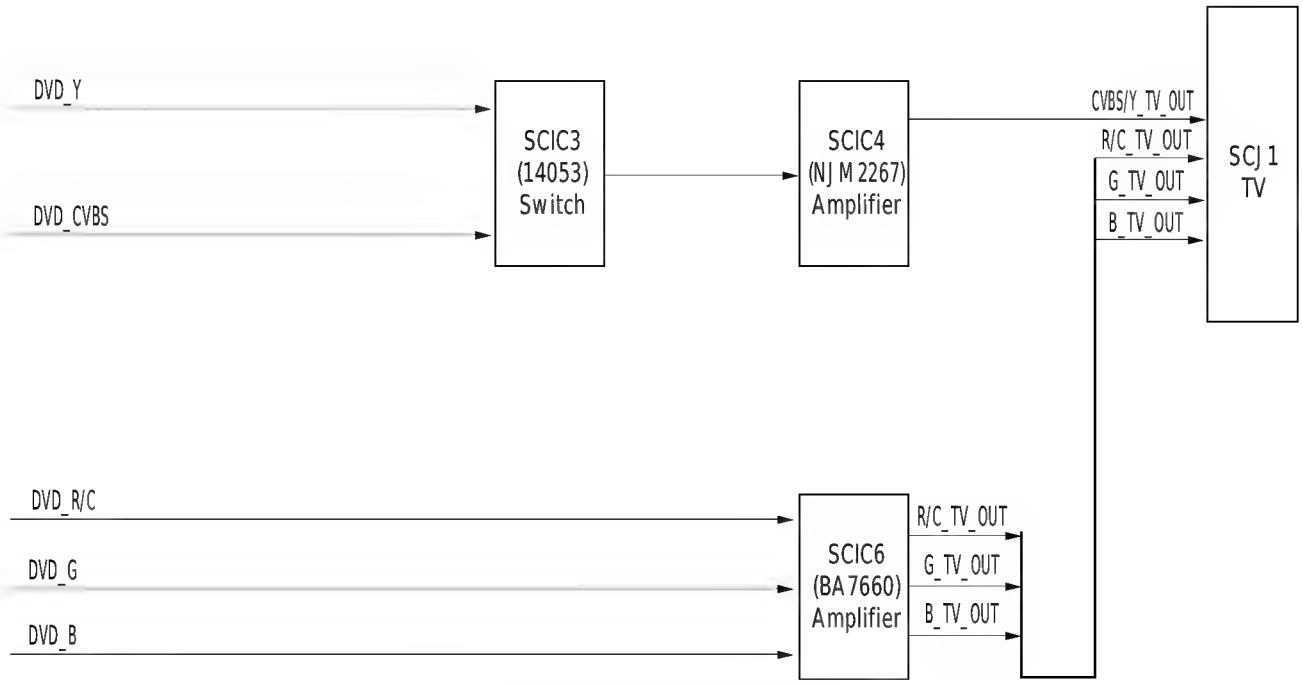



Fig. 5-22 1 Scart Output Block Diagrsm

# 5-7 Audio

## 5-7-1 Outline

The four data (Data 0~3) outputted from A/V decoder (ZIC1 ; ZiVA4.1) are supplied to DATA 0 for 2-channel mixed audio output and to DATA 1~3 for Analog audio output (5.1-channel).
The audio data (0~3) transmitted from A/V decoder (ZIC1 ; ZiVA4.1) are converted into analog signal via audio D/A converter and outputted via post filter and amplifier.
CD and VCD are outputted with only 2 channels audio data and transmit them to Data 0 and Data 1.
Front L/R channel is outputted in mixed audio output (L/R output) and analog audio output and surround L/R, center and subwoofer aren't outputted.
If DVD of 2 channels source disc is used, it is outputted by the same way with CD and VCD.
If 5.1-channel source disc, front L/R channel is outputted in Data 1, Surround L/R in Data 2 and Center/Subwoofer in Data 3. At that time, 5.1 channel can be downmixed in 2 channel in Data 0.

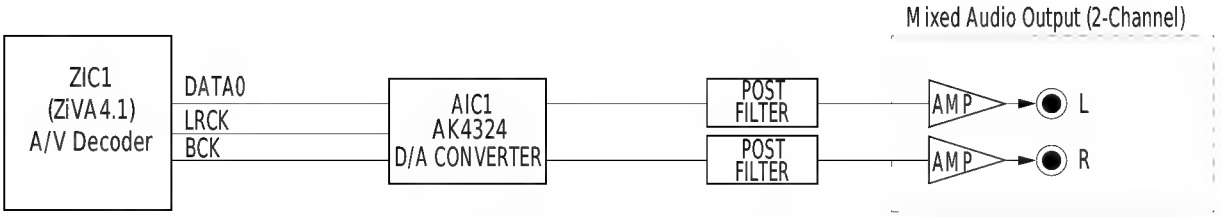



Fig. 5-23 Audio Output Block Diagram

## 5-7-2 DVD Audio Output

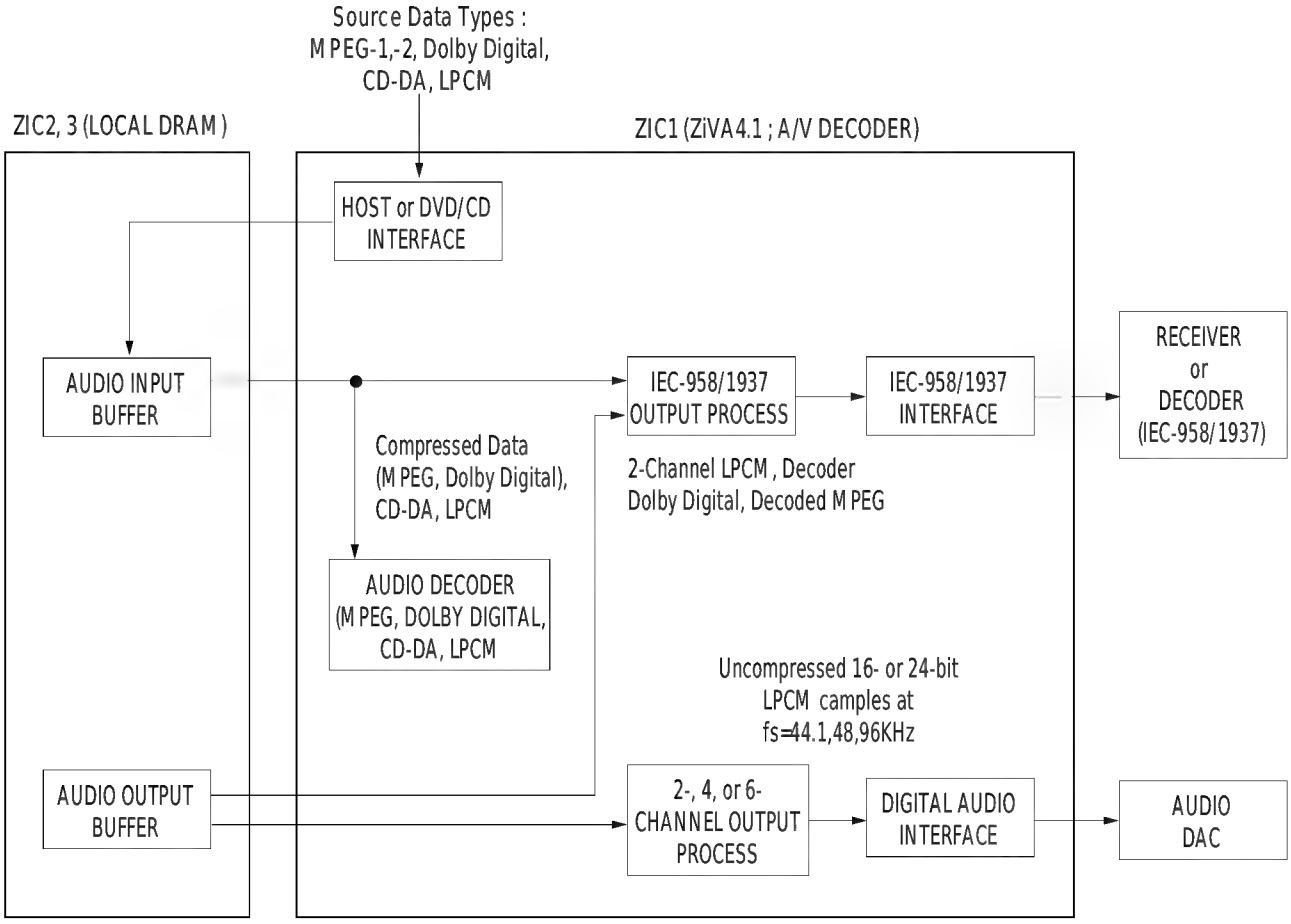



Fig. 5-24 Audio Decoder and Output Interface Datapath

### 1) Compressed Data

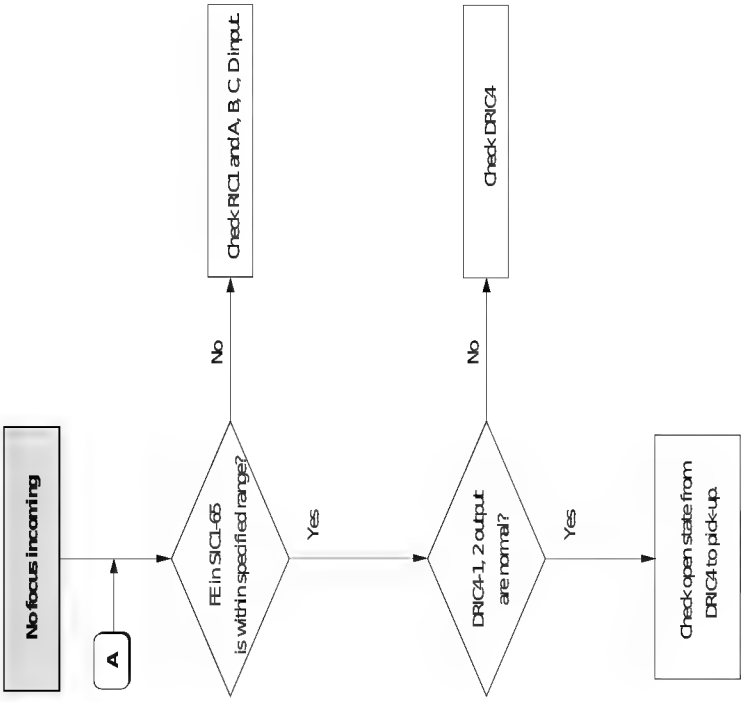
The audio data inputted to ZIC1 (ZiVA4.1) A/V decoder is divided into compressed data and uncompressed data. It is compressed data that is compressed with multi-channel audio data such as Dolby digital, MPEG, DTS, etc. The compressed data inputted to ZIC1 (ZiVA4.1) is converted into the uncompressed data of 2, 4, and 6 channels through ZiVA4.1 built-in audio decoder and is outputted to Data 0, 1, 2, and 3 through digital audio interface. The compressed data is transmitted to external AC-3 amplifier or MPEG/DTS amplifier as IEC-958/1937 transmission data format compressed by ZiVA4.1 built-in IEC-958 output process.

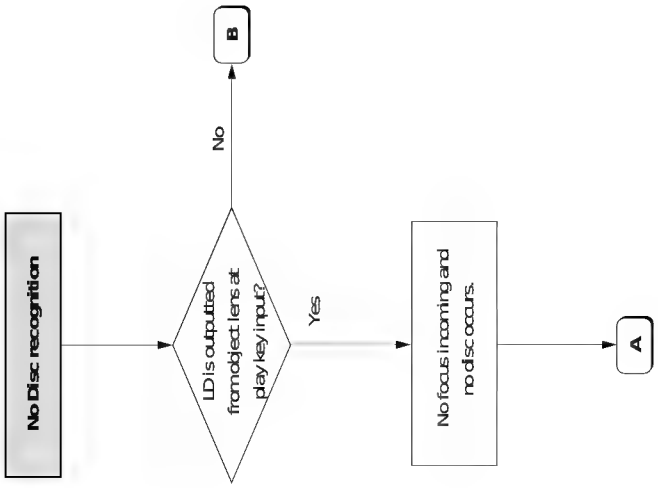
### 2) Uncompressed Data

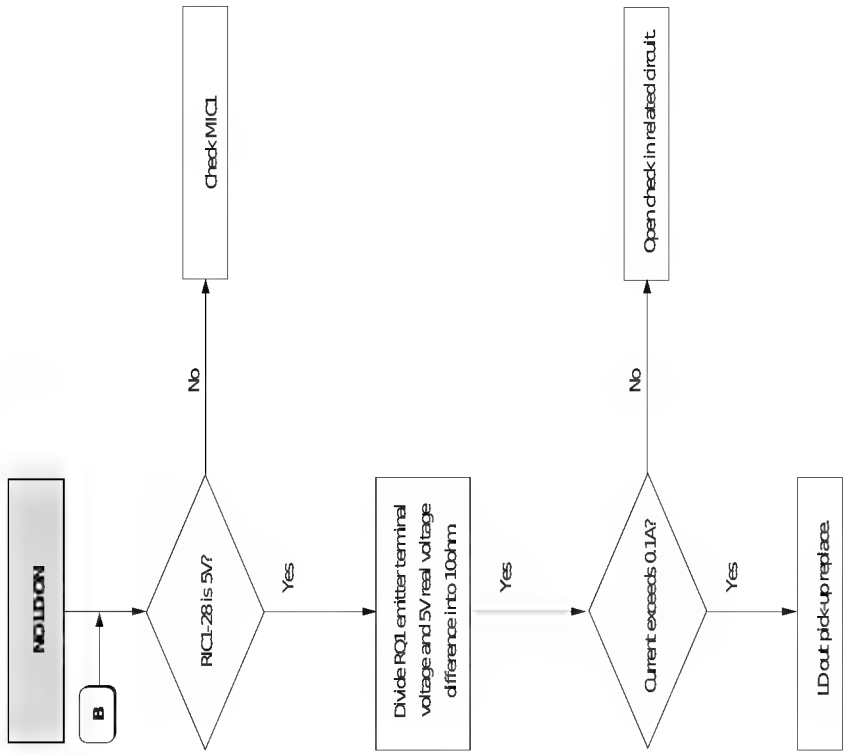
The uncompressed data is that data isn't compressed, so it is called CD-DA, LPCM data.
The 2 channels data is converted through audio decoder 2-channel data and Data 0 and Data 1 are outputted in digital audio interface.Via IEC-958 output process, they is transmitted to digital amplifier or AC-3/MPEG/DTS amplifier built in the external digital input source with IEC-958/1937 transmission format.

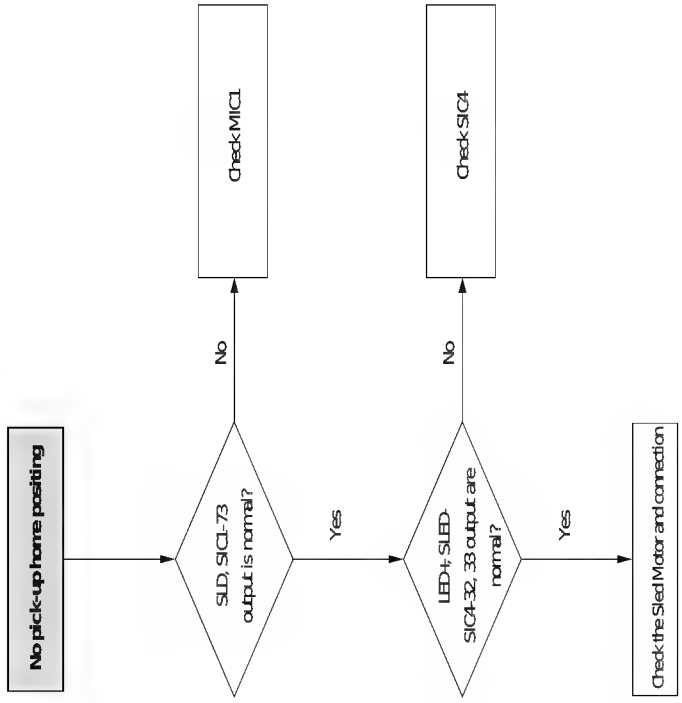
# MEMO

# 6. Troubleshooting

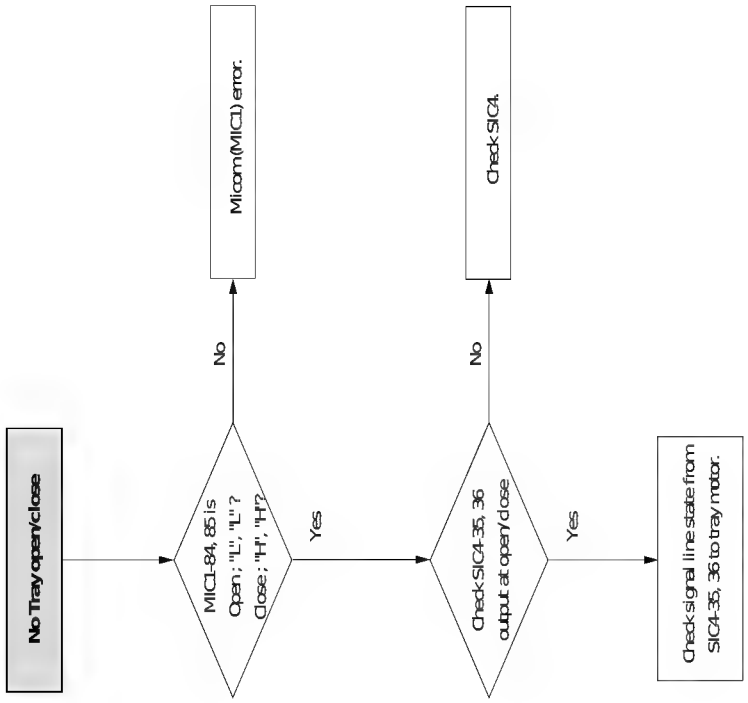


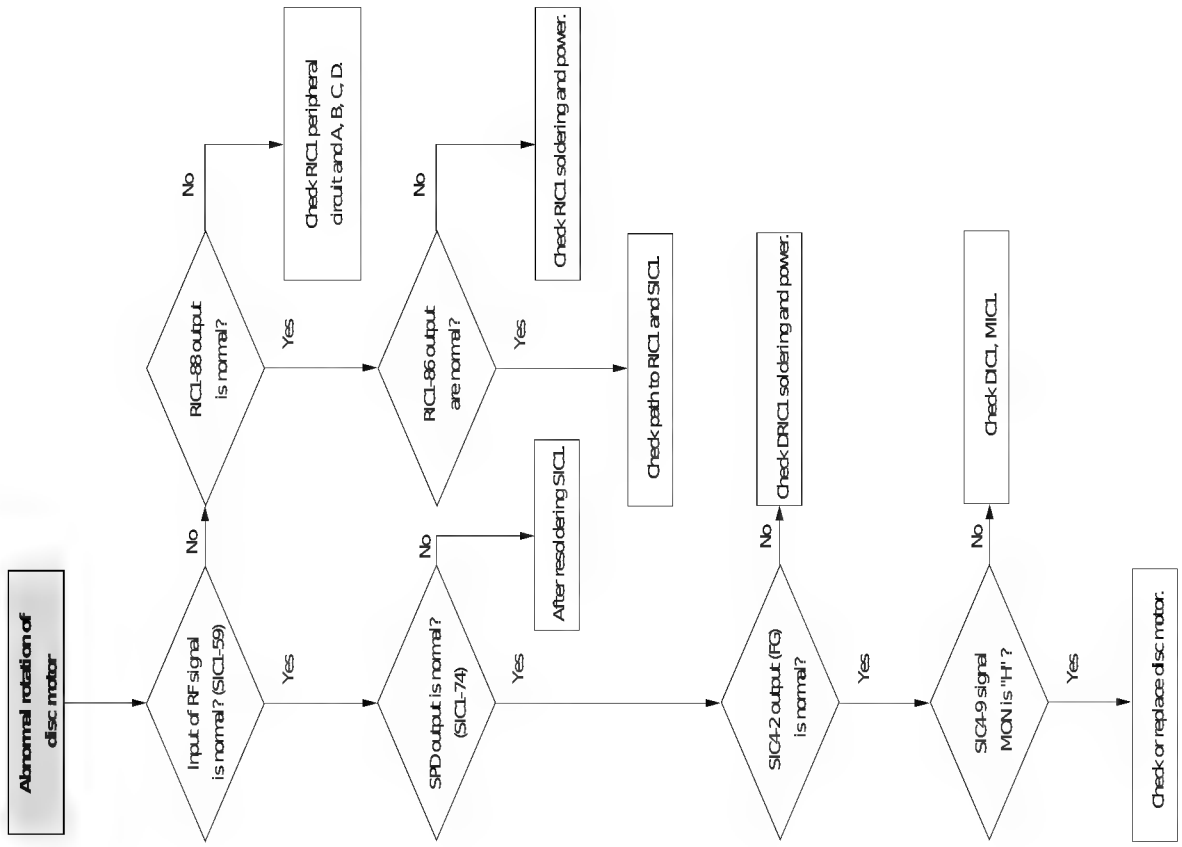



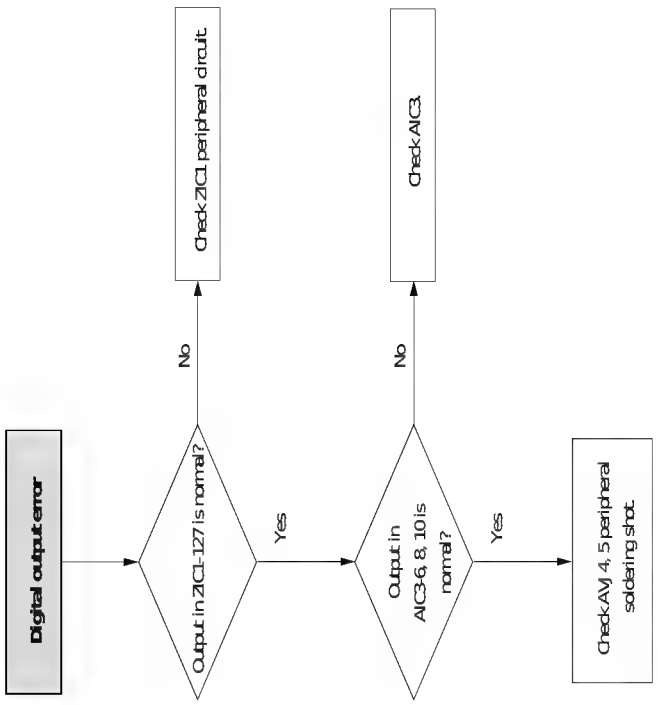

NO LD ICN
B
RICL-28 is 5V?
No
Check MIC1
Yes
Divide RQ1 emitter terminal voltage and 5V real voltage difference into 10ohm
Yes
Current exceeds 0.1A?
No
Open check in related circuit.
Yes
LD out pick-up replace.

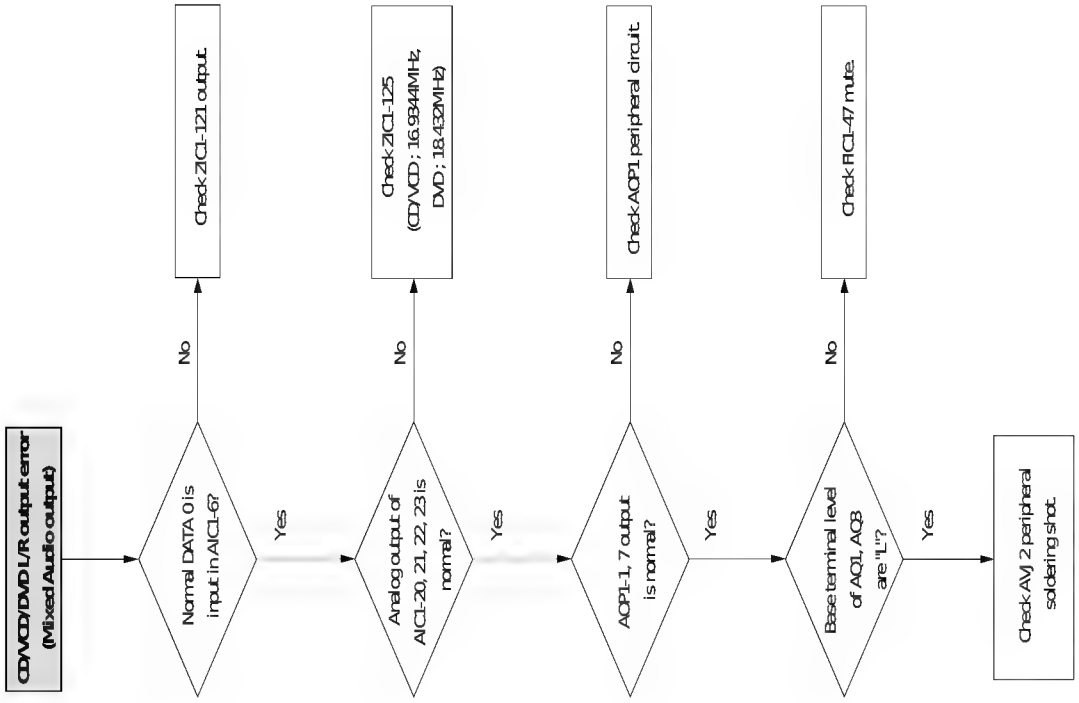

No pick-up home positing
SLD, SIC1-73 output is normal?
No
Check MIC1
Yes
LED+, SLED-SIC4-32, 33 output are normal?
No
Check SIC4
Yes
Check the Sled Motor and connection

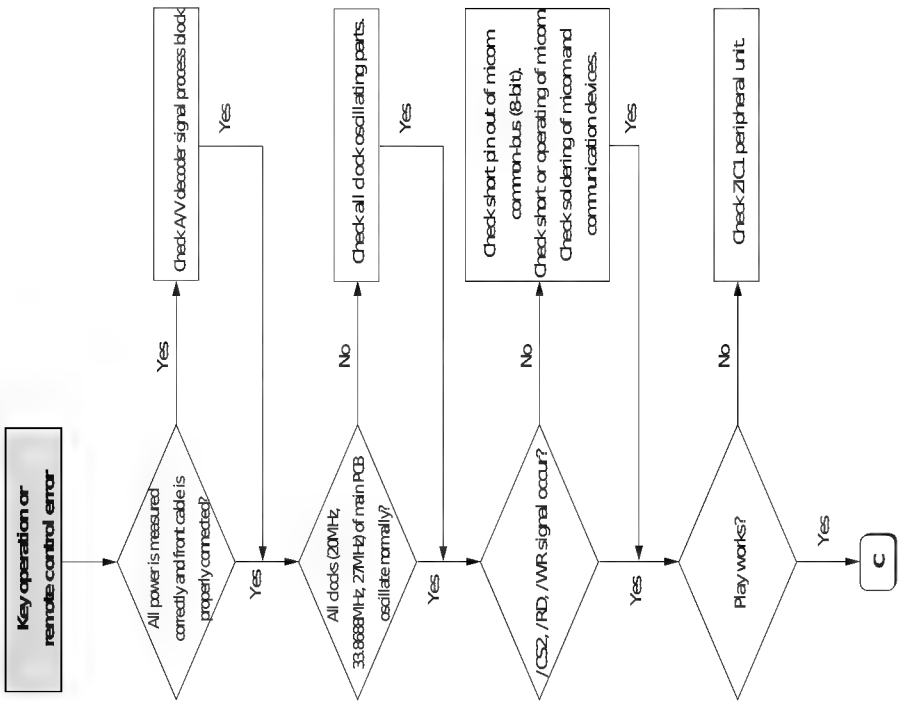
No Search Operation
MIRR, SIC1-38 output is nmal?
No
Yes
RFAGCO, RIC1-89 output level is normal?
No
Check pick-up.
Yes
Check RIC1 peripheral circuit.
Actual velocity occurs at SIC1-73 terminal?
No
Check SIC1 peripheral circuit.
Yes
Actual velocity occurs at ISC4-32, 33 terminal?
No
Check SIC4 peripheral circuit.
Yes
TE occurs in search range?
No
Focus On?
No
A
Yes
See "Time Seek Check"
FINE SEEK Check
FINE SEEK MIRR signal (RIC1-57) is missing?
Yes
Check RIC1 Peripheral circuit.
No
TZCO signal (SIC1-52) is occurs?
No
Check SIC1 Peripheral circuit.
Yes
Track incomming is delayed?
No
Time out due to many jump counts.
Yes
TE is within 2V and 3V?
No
SIC1-76 output is normal?
No
Check RIC1-36 terminal.
Yes
Pick-up transfer smooth
No
Check MECHA.
Yes
Check SIC1 peripheral circuit.
SIC4-28, 29 terminal outputs are normal?
No
Check SIC4 peripheral circuit.
Yes
Check DCN1 and pick-up.

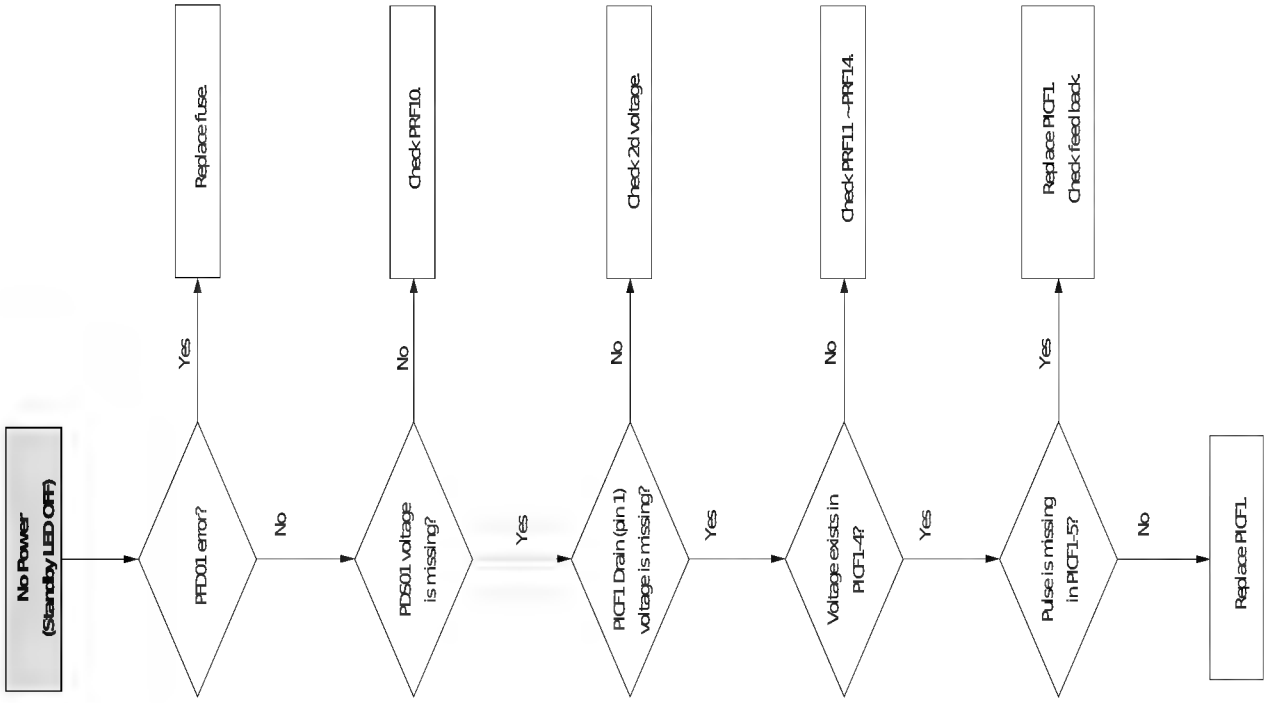

No Tray open/close
MIC1-84, 85 Is Open : "L", "L" ? Close : "H", "H"?
No
Micom(MIC1) error.
Yes
Check SIC4-35, 36 output at open/close
No
Check SIC4.
Yes
Check signal line state from SIC4-35, 36 to tray motor.

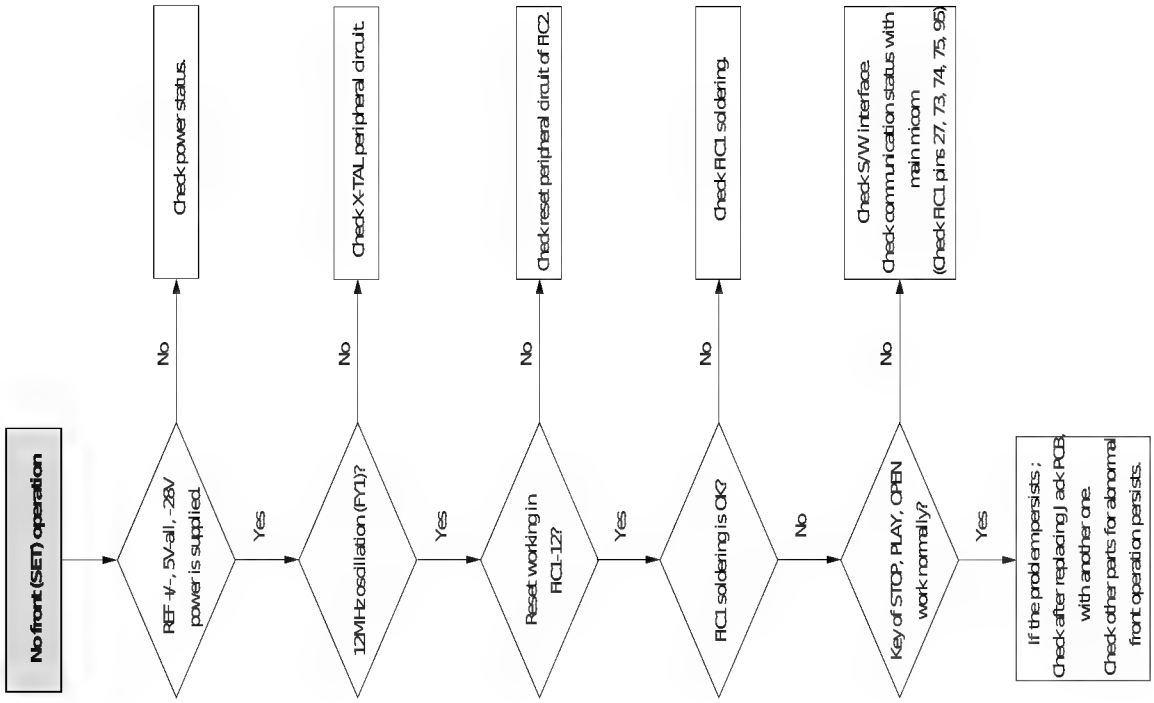

Abnormal rotation of disc motor
Input of RF signal is normal? (SIC1-59)
No
RIC1-88 output is normal?
No
Check RIC1 peripheral circuit and A, B, C, D.
Yes
Yes
SPD output is normal? (SIC1-74)
No
After resoldering SIC1.
RIC1-86 output are normal?
No
Check RIC1 soldering and power.
Yes
Check path to RIC1 and SIC1.
Yes
SIC4-2 output (FG) is normal?
No
Check DRIC1 soldering and power.
Yes
SIC4-9 signal MON Is "H" ?
No
Check DIC1, MIC1.
Yes
Check or replace disc motor.

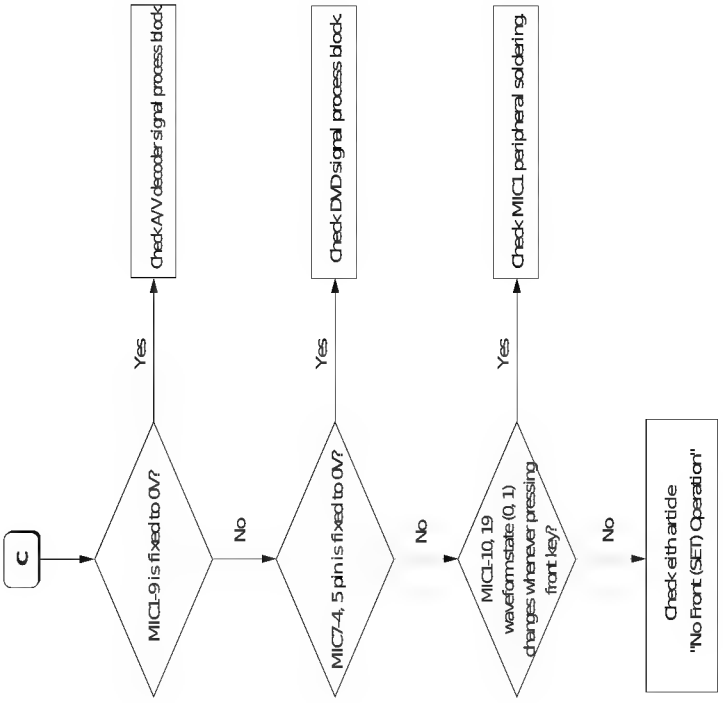

Digital output error
Output in ZIC1-127 is normal?
No
Check ZIC1 peripheral circuit.
Yes
Output in AIC3-6, 8, 10 is normal?
No
Check AIC3.
Yes
Check AVJ 4, 5 peripheral soldering shot.

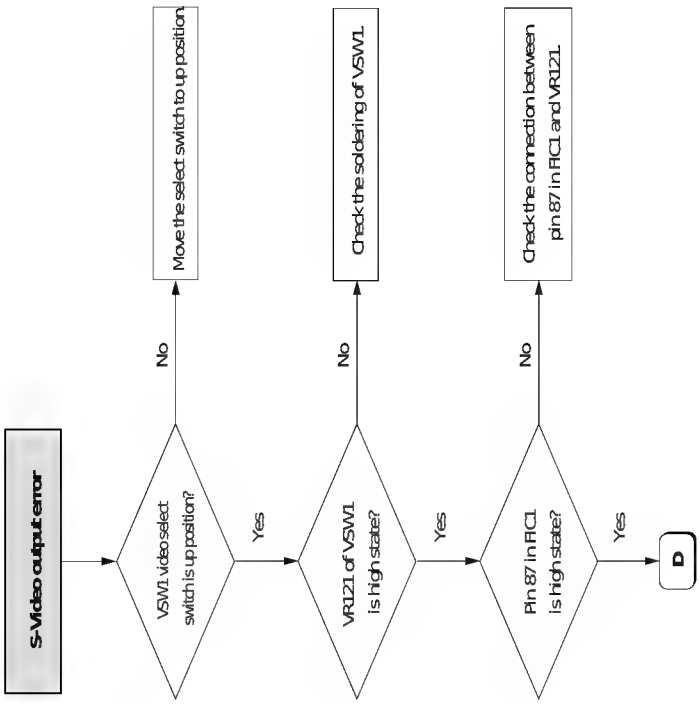

CD/VCD/DMD L/R output error (Mixed Audio output)
Normal DATA 0 is input in AIC1-6?
No
Check ZIC1-121 output.
Yes
Analog output of AIC1-20, 21, 22, 23 is normal?
No
Check ZIC1-125 (CD/VCD : 16.9344MHz, DVD : 18.432MHz)
Yes
ACP1-1, 7 output is normal?
No
Check ACP1 peripheral circuit.
Yes
Base terminal level of AQ1, AQ3 are "L"?
No
Check RC1-47 mute.
Yes
Check AVJ 2 peripheral soldering shot.

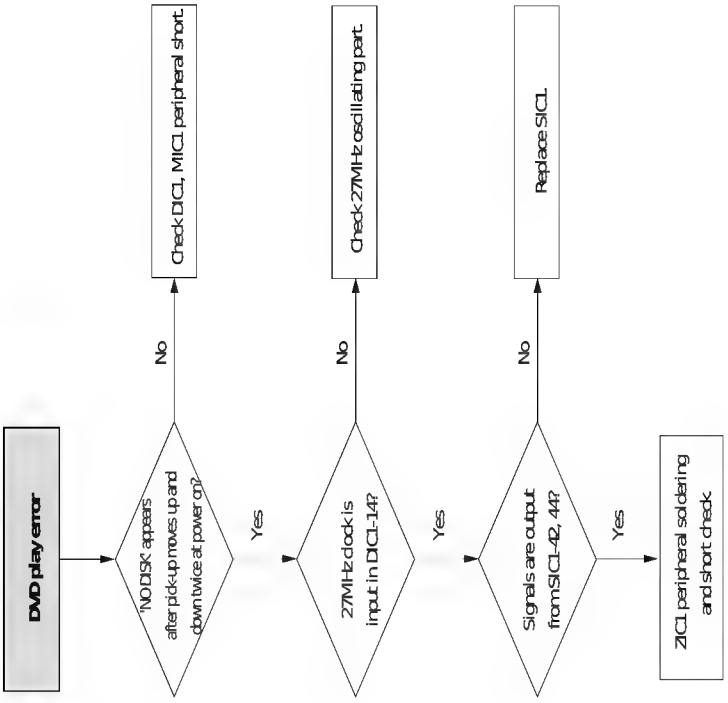

Key operation or remote control error
All power is measured correctly and front cable is properly connected?
Yes
Check A/V decoder signal process block
Yes
All clocks (20MHz, 33.8688MHz, 27MHz) of main PCB oscillate normally?
No
Check all clock oscillating parts.
Yes
/CS2, /RD, /WR signal occur?
No
Check short pin out of micom common bus (8-bit).
Check short or operating of micom
Check soldering of micom and communication devices.
Yes
Play works?
No
Check ZIC1 peripheral unit.
Yes
C

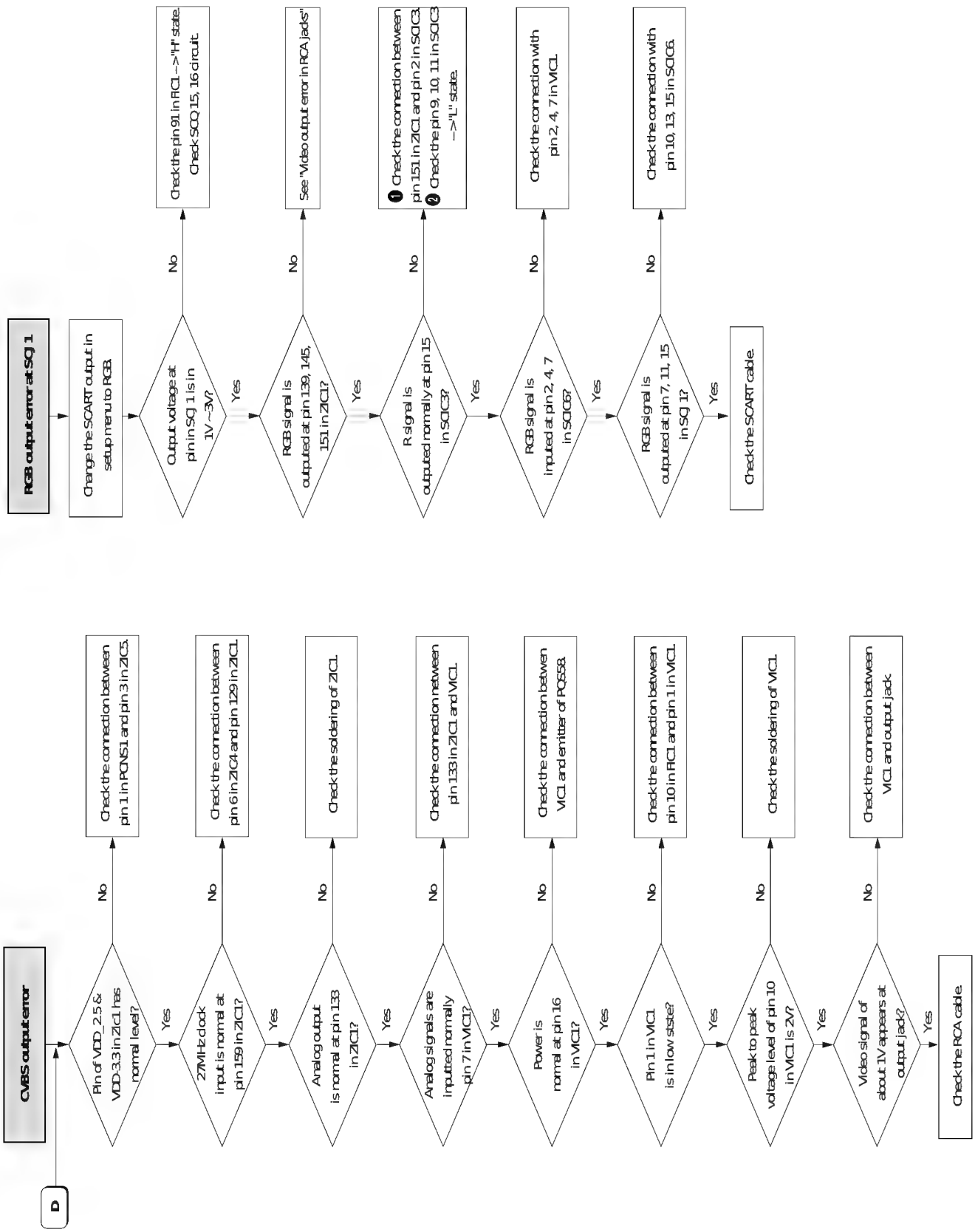

No Power (Standby LED OFF)
PFD01 error?
Yes
Replace fuse.
No
PDS01 voltage is missing?
No
Check PRF10.
Yes
PIGF1 Drain (pin 1) voltage is missing?
No
Check 2d voltage.
Yes
Voltage exists in PIGF1-4?
No
Check PRF11 ~PRF14.
Yes
Pulse is missing in PIGF1-5?
Yes
Replace PIGF1. Check feed back.
No
Replace PIGF1.


No front (SEL) operation
REF +/-, 5V-all, -28V power is supplied.
No
Check power status.
Yes
12MHz oscillation (FR1)?
No
Check X-TAL peripheral circuit
Yes
Reset working in RIC1-12?
No
Check reset peripheral circuit of RIC2.
Yes
RIC1 soldering is OK?
No
Check RIC1 soldering.
Key of STOP, PLAY, OPEN work normally?
No
Check S/W interface
Check communication status with main micom
(Check RIC1 pins 27, 73, 74, 75, 95)
Yes
If the problem persists ;
Check after replacing J ack PCB with another one.
Check other parts for abnormal front operation persists.


C
MIC1-9 is fixed to 0V?
Yes
Check A/V decoder signal process block
No
MIC7-4, 5 pin is fixed to 0V?
Yes
Check DVD signal process block
No
MIC1-10, 19 waveform state (0, 1) changes whenever pressing front key?
Yes
Check MIC1 peripheral soldering
No
Check eith article
"No Front (SEL) Operation"


S-Video output error
VSW1 video select switch is up position?
No
Move the select switch to up position
Yes
VR121 of VSW1 is high state?
No
Check the soldering of VSW1
Yes
Pin 87 in RIC1 is high state?
No
Check the connection between pin 87 in RIC1 and VR121
Yes
D


DVD play error
"NO DISK" appears after pick-up moves up and down twice at power on?
No
Check DIC1, MIC1 peripheral short
Yes
27MHz clock is input in DIC1-14?
No
Check 27MHz oscillating part
Yes
Signals are output from SIC1-42, 44?
No
Replace SIC1
Yes
ZIC1 peripheral soldering and short check


RGB output error at SCJ 1
Change the SCART output in setup menu to RGB.
Output voltage at pin in SCJ 1 is in 1V ~3V?
No
Check the pin 91 in RC1 -> "H" state.
Check SCQ 15, 16 circuit.
Yes
RGB signal is outputed at pin 139, 145, 151 in ZC1?
No
See "Video output error in RCA jacks"
Yes
R signal is outputed normally at pin 15 in SCC3?
No
1 Check the connection between pin 151 in ZC1 and pin 2 in SCC3.
2 Check the pin 9, 10, 11 in SCC3 -> "L" state.
Yes
RGB signal is inputed at pin 2, 4, 7 in SCC6?
No
Check the connection with pin 2, 4, 7 in VC1.
Yes
RGB signal is outputed at pin 7, 11, 15 in SCJ 1?
No
Check the connection with pin 10, 13, 15 in SCC6.
Yes
Check the SCART cable.
CVBS output error
D
Pin of VDD_2.5 & VDD-3.3 in ZC1 has normal level?
No
Check the connection between pin 1 in PCN51 and pin 3 in ZC5.
Yes
27MHz clock input is normal at pin 159 in ZC1?
No
Check the connection between pin 6 in ZC4 and pin 129 in ZC1.
Yes
Analog output is normal at pin 133 in ZC1?
No
Check the soldering of ZC1.
Yes
Analog signals are inputted normally pin 7 in VC1?
No
Check the connection between pin 133 in ZC1 and VC1.
Yes
Power is normal at pin 16 in VC1?
No
Check the connection betwen VC1 and emitter of PQ558.
Yes
Pin 1 in VC1 is in low state?
No
Check the connection between pin 10 in RC1 and pin 1 in VC1.
Yes
Peak to peak voltage level of pin 10 in VC1 is 2V?
No
Check the soldering of VC1.
Yes
Video signal of about 1V appears at output jack?
No
Check the connection between VC1 and output jack.
Yes
Check the RCA cable.

# MEMO

# 7. Exploded View and Parts List


Page

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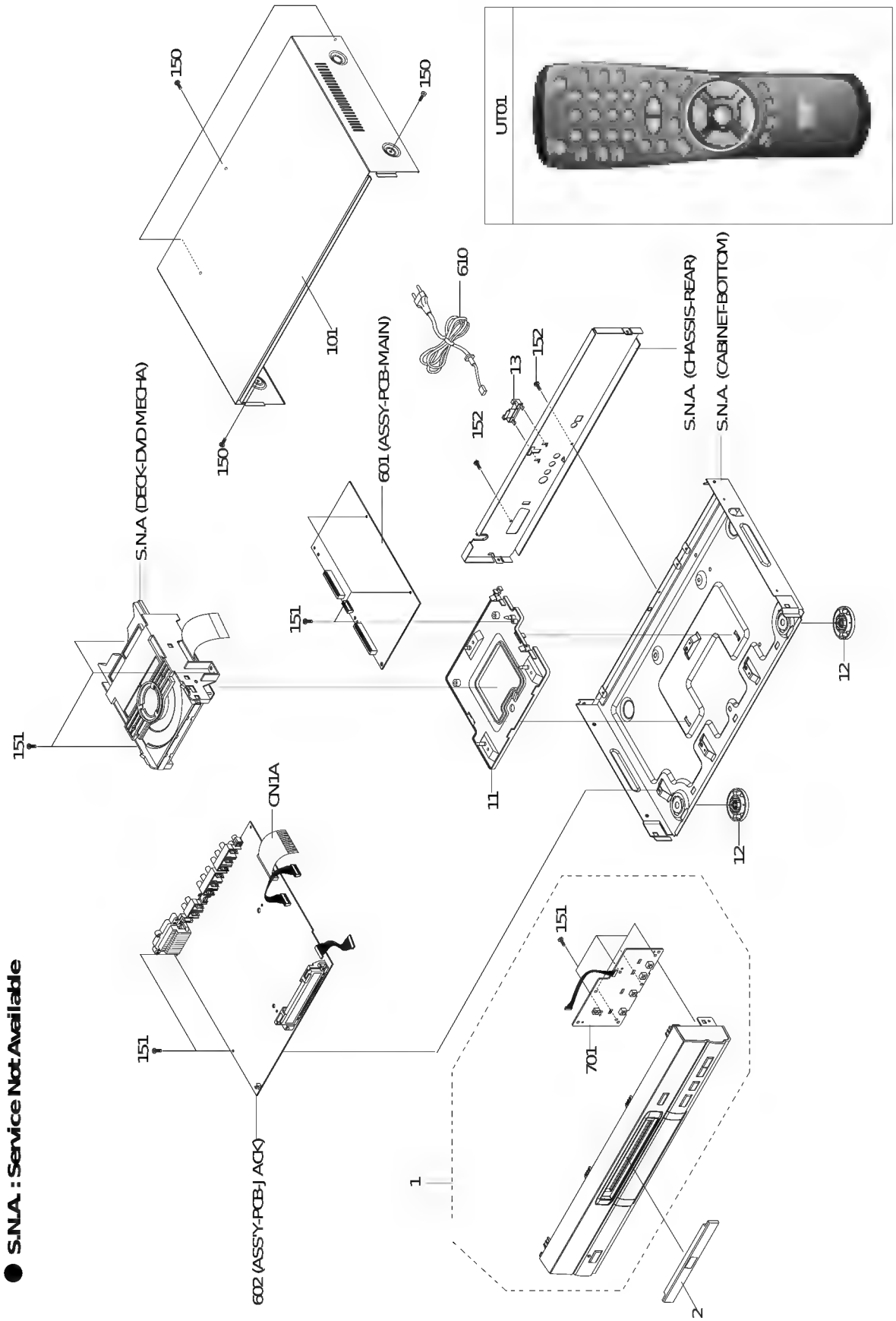
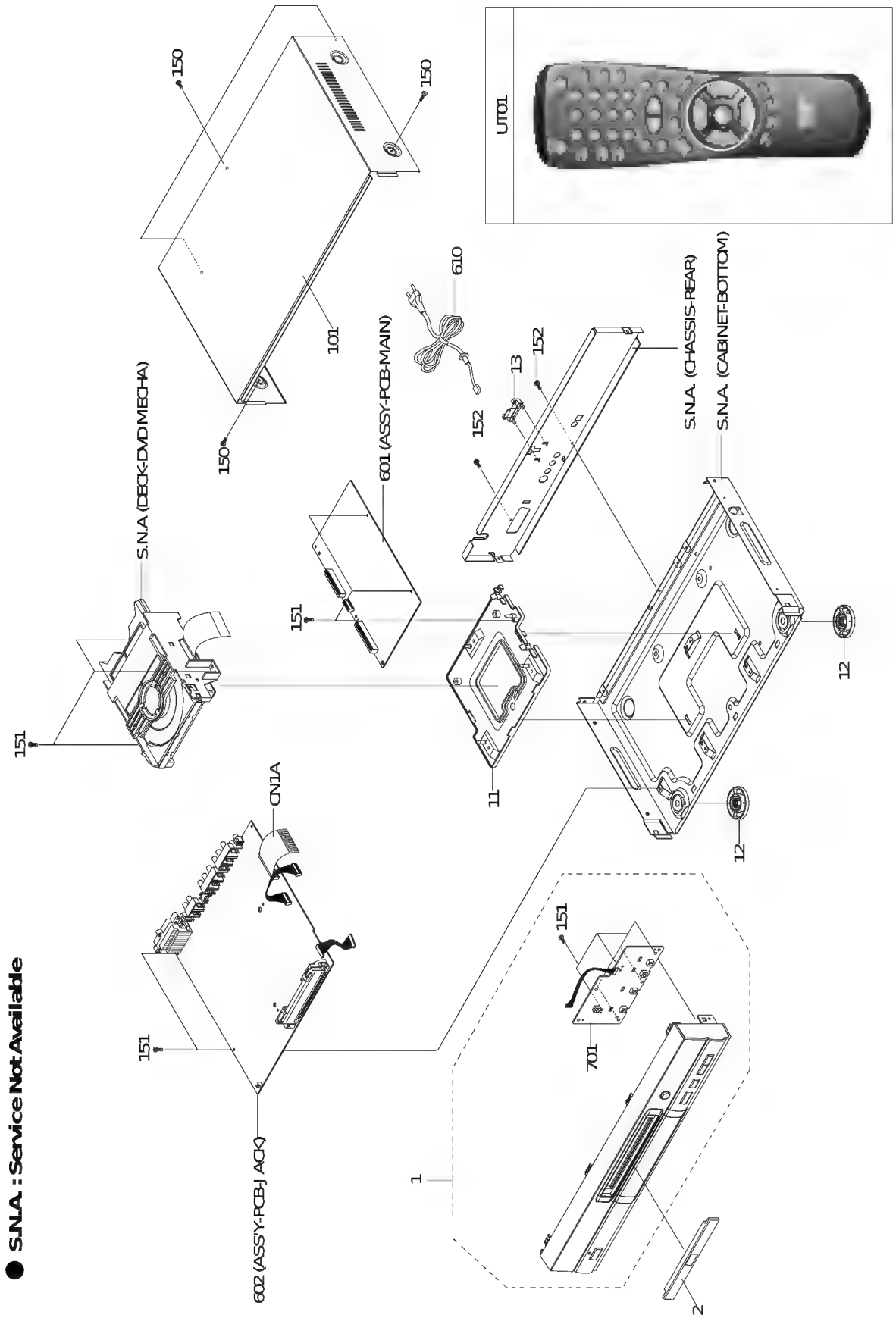
# 7-1 Cabinet Assembly (DVD-611)



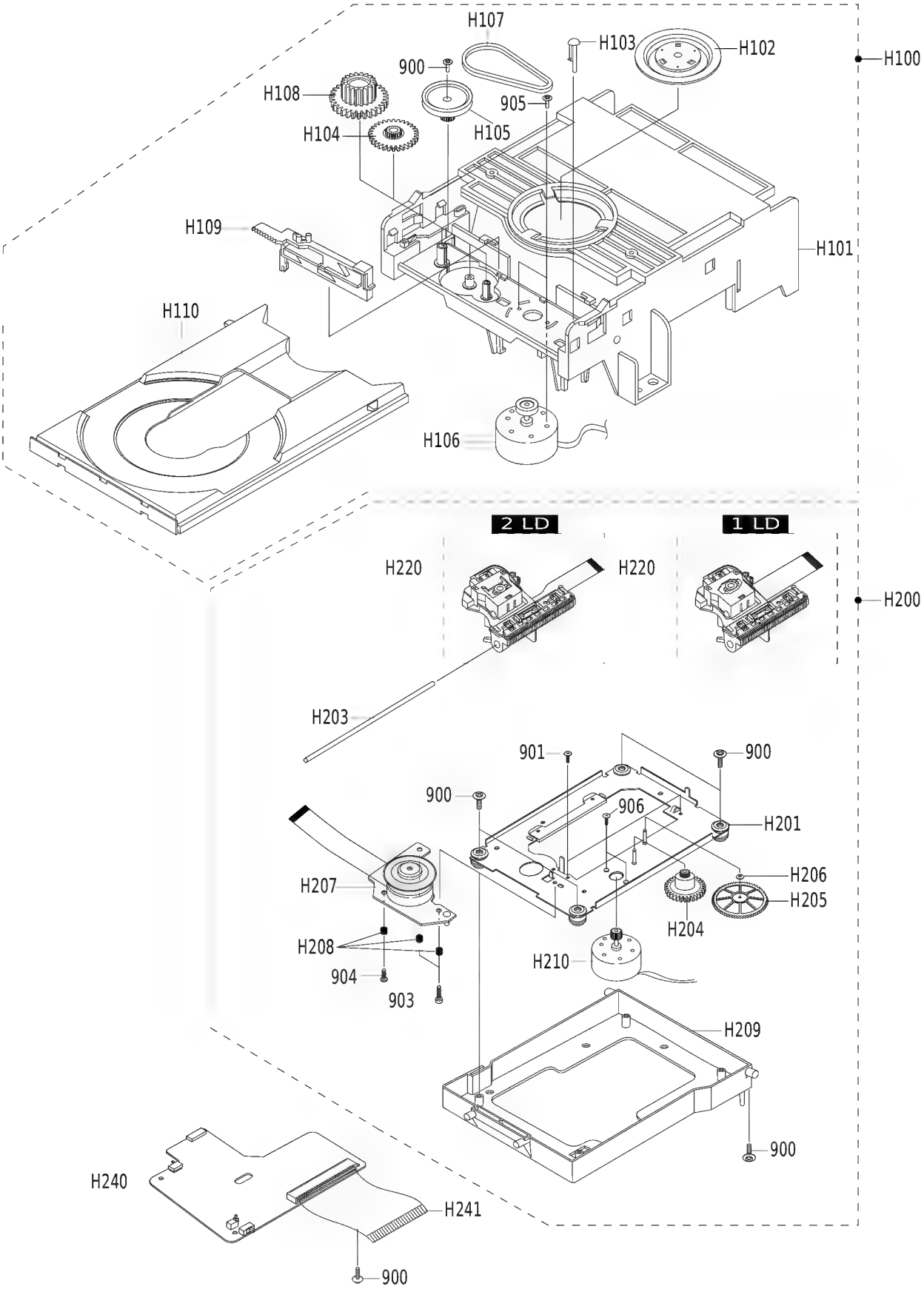
| Loc. No | Parts No. | Description ; Specification | Remark |
|---|---|---|---|
| 1 | AH97-00359B | ASSY FRONT CABINET;DVD-611/XEF,ASSY,XEF | DVD-611 |
| | AH97-00359E | ASSY FRONT CABINET;DVD-611B/XET | DVD-611B |
| | AH97-00359F | ASSY FRONT CABINET;DVD-615/XET | DVD-615 |
| 2 | AH97-00364B | ASSY-DOOR;ASS'Y,DVD-611,XEF | |
| 11 | AH61-00301B | HOLDER-DECK;-,HIPS 94BH,-,GRY,-,DVD-811 | |
| 12 | AH64-80001E | FOOT-FRONT;-,ABS94,HB,T2,SIL,H/STAMP,DVD | |
| 13 | AH61-00303A | HOLDER-CORD POWER;-,ABS 94HB,-,BLK,-,DVD | |
| 101 | AH64-00489B | CABINET TOP;-,PCM T0.65,-,-,-,SIL,SV227, | DVD-611/615 |
| | AH64-00489A | CABINET TOP | DVD-611B |
| 150 | 6003-000275 | SCREW-TAPTITE;BH,+,B,M3,L10,BLK,SWCH1018 | |
| 151 | 6003-000276 | SCREW-TAPTITE;BH,+,B,M3,L10,ZPC(YEL),SWC | |
| 152 | 6003-000282 | SCREW-TAPTITE;BH,+,B,M3,L8,ZPC(BLK),SWCH | |
| 601 | AH92-00337K | ASSY PCB-MAIN;DVD-511/XEF,MAIN PCB | |
| 602 | AH92-00338B | ASSY PCB-JACK;DVD-611/XEF,JACK PCB | |
| 610 | AC39-10019A | POWER CORD;KKP-419C,H03VVH2-F,VDE/KEMA-K | COMMON |
| | AC39-12022K | POWER-CORD;Y352160,H03VVH2-F,-,BS6500,1. | U.K. ONLY |
| 701 | AH92-00583A | ASSY PCB-KEY;DVD-611/XAA,KEY PCB | |
| CN1A | 3809-001180 | CABLE-FLAT;30V,-30to+80C,80mm,35P,1.25mm | |
| UT01 | AH59-00056C | REMOCON-ASS'Y;DVD-611/XEF,SEF,-,-,-,-,-, | |

# 7-2 Cabinet Assembly (DVD-511)



| Loc. No | Parts No. | Description ; Specification | Remark |
|---|---|---|---|
| 1 | AH97-00360B | ASSY FRONT CABINET;ASSY,DVD-511/XEF,XEF | |
| 2 | AH97-00365B | ASSY-DOOR;ASS'Y,DVD-511,XEF | |
| 11 | AH61-00301B | HOLDER-DECK;-,HIPS 94BH,-,GRY,-,DVD-811 | |
| 12 | AH64-80001E | FOOT-FRONT;-,ABS94,HB,T2,SIL,H/STAMP,DVD | |
| 13 | AH61-00303A | HOLDER-CORD POWER;-,ABS 94HB,-,BLK,-,DVD | |
| 101 | AH64-00489B | CABINET TOP;-,PCM T0.65,-,-,-,SIL,SV227, | |
| 150 | 6003-000275 | SCREW-TAPTITE;BH,+,B,M3,L10,BLK,SWCH1018A | |
| 151 | 6003-000276 | SCREW-TAPTITE;BH,+,B,M3,L10,ZPC(YEL),SWC | |
| 152 | 6003-000282 | SCREW-TAPTITE;BH,+,B,M3,L8,ZPC(BLK),SWCH | |
| 601 | AH92-00337K | ASSY PCB-MAIN;DVD-511/XEF,MAIN PCB | |
| 602 | AH92-00338F | ASSY PCB-JACK;DVD-511/XEF,JACK PCB | |
| 610 | AC39-10019A | POWER CORD;KKP-419C,H03VVH2-F,VDE/KEMA-K | COMMON |
| | AC39-12022K | POWER-CORD;Y352160,H03VVH2-F,-,BS6500,1. | U.K. ONLY |
| 701 | AH92-00582A | ASSY PCB-KEY;DVD-511/XAA,KEY PCB | |
| CN1A | 3809-001180 | CABLE-FLAT;30V,-30to+80C,80mm,35P,1.25mm | |
| UT01 | AH59-00056C | REMOCON-ASS'Y;DVD-611/XEF,SEF,-,-,-,-,-, | |

# 7-3 Deck Assembly



| Loc. No | Parts No. | Description ; Specification | Remark |
|---|---|---|---|
| 900 | 6003-001157 | SCREW-TAPTITE;PW H,+,B,M 2,L6,ZPC(YEL),SW R | |
| 901 | 6001-001332 | SCREW-M ACHINE;FH,+,M 2,L8,ZPC(YEL),SW RCH1 | |
| 903 | 6001-001333 | SCREW-M ACHINE;SOCKET,HEX,M 2.6,L8,ZPC(YEL | |
| 904 | 6001-001196 | SCREW-M ACHINE;BH,+-,M 2,L4,ZPC(YEL),SW RCH | |
| 905 | BG60-10020A | SCREW-SP M OTOR;-,BHW TOOTH,-,-M 1.7,L3- | |
| 906 | AH60-00010A | SCREW-M ACHINE-M OTOR;-,+SW CH18AK,M 1.7,L2 | |
| H100 | AH61-00391A | HOUSING-ASSY;DP-5,ABS+POM ,-,-,-,-,-,-,-, | |
| H101 | AH61-00272A | CHASSIS-HOUSING;-,ABS(SR-0320),-,-,-,-,B | |
| H102 | AH66-00111A | CLAM PER-ASSY;DP-5,POM +M AGNET,-,-,-,DP-5 | |
| H103 | AH66-00080A | LEVER-S/W ;W HITE,-,-,-,-,-,-,- | |
| H104 | AH66-00074A | GEAR-HOUSING;-,POM M 90-44,-,-,-,-,-,-,-, | |
| H105 | AH66-00072A | PULLEY-GEAR;-,POM M 90-44,-,-,- | |
| H106 | AH31-00015A | M OTOR-LOAD ASSY;-,DP-5,-,- | |
| H107 | AH66-00112A | BELT-PULLEY;-,CR,T1.5,ID30,-,-,DP-5 | |
| H108 | AH66-00073A | GEAR-TRAY;-,POM M 90-44,-,-,-,-,-,-,-,- | |
| H109 | AH66-00079A | SLIDER-HOUSING;DP-5,-,-,-,PBT #2002K,- | |
| H110 | AH66-00081A | TRAY-DISC;-,ABS(GF) VG4820,-,BLK,-,DP-5 | |
| H200 | AH97-00369A | ASSY-P/U DECK;DP-5,-,- | 1 LD (DVD-511) |
| | AH97-00369B | ASSY-P/U DECK;2LD,DP-5,- | 2 LD (DVD-611/611B/615) |
| H201 | AH97-00410A | ASSY-BRKT-SUB;SECC+RUBBER+M OTOR,DP-5,- | |
| H203 | AH61-50327A | SHAFT-P/U;DP,SUS420J 2,OD3,L84.7,S/FINISH | |
| H204 | AH66-00075A | GEAR-FEED A;-,POM M 90-44,-,-,-,-,-,-,-,- | |
| H205 | AH66-00076A | GEAR-FEED B;-,POM M 90-44,-,-,-,-,-,-,-,- | |
| H206 | AC60-30306A | WASHER-SLIT;-,-,ID2.1,OD5.0,T0.5,-,POLYS | |
| H207 | AH31-00017A | M OTOR-SPINDLE ASSY;-,DP-5,-,- | |
| H208 | AH61-00403A | SPRING-SPINDLE;-,SW PB,-,CS,PI4.9,PI0.7,- | |
| H209 | AH61-00273A | CHASSIS-SUB;-,ABS(SR-0320),-,-,-,-,BLK,- | |
| H210 | AH31-00016A | M OTOR-FEED ASSY;-,DP-5,-,- | |
| H220 | AH30-00008A | PICK UP-ASSY;VALINO(1LD) | 1 LD (DVD-511) |
| | AJ 97-00014A | ASSY-PICK-UP;SOH-D2A,-,- | 2 LD (DVD-611/611B/615) |
| H240 | AH92-00608A | ASSY PCB-DECK;VALINO DECK 1LD | 1 LD (DVD-511) |
| | AH92-00609A | ASSY PCB-DECK;VALINO DECK 2LD | 2 LD (DVD-611/611B/615) |
| H241 | 3809-001181 | CABLE-FLAT;30V,-30to+80C,80mm,40P,1.25mm | |

# MEMO

# 8. Electrical Parts List

| Loc.No | Part No | Description ; Specification | Remark |
|---|---|---|---|
| **601** | **AH92-00337K** | **ASSY PCB-MAIN;DVD-511/XEF,MAIN PCB** | **COMMON** |
| CN8 | 3708-001364 | CONNECTOR-FPC/FC/PIC;35P,1.25MM,STRAIGHT | |
| DC1 | 2203-005148 | C-CERAMIC,CHIP;100nF,10%,16V,X7R,TP,1608 | |
| DC10 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| DC12 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| DC13 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| DC14 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| DC15 | 2203-001640 | C-CERAMIC,CHIP;0.39nF,10%,50V,X7R,TP,160 | |
| DC16 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| DC2 | 2203-005148 | C-CERAMIC,CHIP;100nF,10%,16V,X7R,TP,1608 | |
| DC23 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| DC24 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| DC3 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| DC4 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| DC5 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| DC7 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| DCN1 | 3708-001085 | CONNECTOR-FPC/FC/PIC;40P,1.25mm,STRAIGHT | |
| DIC1 | AH13-10030P | IC-ASIC;-,KS1453,TQFP,128P,DATA PRO.I | |
| DIC2 | 1105-001233 | IC-DRAM;416C256,256KX16BIT,SOJ,40P,400MI | |
| DIC3 | 0801-002097 | IC-CMOS LOGIC;7SET08,AND GATE,SOP,5P,110 | |
| DR1 | 2007-000799 | R-CHIP;360ohm,5%,1/16W,DA,TP,1608 | |
| DR16 | 2007-000799 | R-CHIP;360ohm,5%,1/16W,DA,TP,1608 | |
| DR17 | 2007-000799 | R-CHIP;360ohm,5%,1/16W,DA,TP,1608 | |
| DR18 | 2007-000070 | R-CHIP;0ohm,5%,1/16W,DA,TP,1608 | |
| DR19 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| DR2 | 2007-000799 | R-CHIP;360ohm,5%,1/16W,DA,TP,1608 | |
| DR20 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| DR21 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| DR22 | 2007-000109 | R-CHIP;1Mohm,5%,1/16W,DA,TP,1608 | |
| DR3 | 2007-000799 | R-CHIP;360ohm,5%,1/16W,DA,TP,1608 | |
| DR4 | 2007-000799 | R-CHIP;360ohm,5%,1/16W,DA,TP,1608 | |
| DR5 | 2007-000799 | R-CHIP;360ohm,5%,1/16W,DA,TP,1608 | |
| DR7 | 2007-000799 | R-CHIP;360ohm,5%,1/16W,DA,TP,1608 | |
| DR8 | 2011-000816 | R-NETWORK;100ohm,5%,63mW,L,CHIP,8P,TP | |
| DR9 | 2011-000816 | R-NETWORK;100ohm,5%,63mW,L,CHIP,8P,TP | |
| MC1 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| MC10 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| MC12 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| MC13 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| MC14 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| MC15 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| MC16 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| MC17 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| MC2 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| MC3 | 2203-000626 | C-CERAMIC,CHIP;0.022nF,5%,50V,NP0,TP,160 | |
| MC4 | 2203-000426 | C-CERAMIC,CHIP;0.018nF,5%,50V,NP0,TP,160 | |
| MC5 | 2203-000426 | C-CERAMIC,CHIP;0.018nF,5%,50V,NP0,TP,160 | |
| MC6 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| MC7 | 2203-000626 | C-CERAMIC,CHIP;0.022nF,5%,50V,NP0,TP,160 | |
| MC8 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| MC9 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| MIC1 | 0903-001185 | IC-MICROCONTROLLER;95C265,16Bit,LQFP,100 | |
| MIC2 | 1102-001090 | IC-EPROM;27C081,1MX8BIT,DIP,32P,600MIL,1 | |
| MIC3 | 1106-000401 | IC-SRAM;681000,128Kx8BIT,SOP,32P,525MI | |
| MIC4 | 1103-001204 | IC-EEPROM;24C021,256x8Bit,SOP,8P,150MIL, | |
| MIC5 | 0801-002097 | IC-CMOS LOGIC;7SET08,AND GATE,SOP,5P,110 | |
| MIC6 | 0801-000411 | IC-CMOS LOGIC;74HC32,OR GATE,SOP,14P,150 | |
| MIC7 | 0801-002517 | IC-CMOS LOGIC;7SET00,NAND GATE,SOP,5P,63 | |
| MIC8A | 3704-000472 | SOCKET-IC;32P,DIP,SN,2.54mm | |
| MR1 | 2007-000090 | R-CHIP;10Kohm,5%,1/16W,DA,TP,1608 | |
| MR10 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| MR11 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| MR12 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| MR14 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| MR15 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| MR2 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| MR3 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| MR4 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| MR5 | 2007-000109 | R-CHIP;1Mohm,5%,1/16W,DA,TP,1608 | |
| MR6 | 2007-000090 | R-CHIP;10Kohm,5%,1/16W,DA,TP,1608 | |
| MR7 | 2007-000090 | R-CHIP;10Kohm,5%,1/16W,DA,TP,1608 | |
| MR8 | 2007-000078 | R-CHIP;1Kohm,5%,1/16W,DA,TP,1608 | |
| MR9 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| MY1 | 2801-000199 | CRYSTAL-UNIT;20MHz,50ppm,28-AAA,16pF,50o | |
| PC1 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| PC2 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| PC3 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| PC4 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| PCN1 | 3711-003358 | CONNECTOR-HEADER;BOX,8P,1R,2.5mm,STRAIGH | |
| PE1 | 2401-002165 | C-AL;100uF,20%,16V,GP,TP,6.3x7,5 | |
| PE2 | 2401-002165 | C-AL;100uF,20%,16V,GP,TP,6.3x7,5 | |
| PE3 | 2401-002165 | C-AL;100uF,20%,16V,GP,TP,6.3x7,5 | |
| PE4 | 2401-002165 | C-AL;100uF,20%,16V,GP,TP,6.3x7,5 | |
| RC1 | 2203-005148 | C-CERAMIC,CHIP;100nF,10%,16V,X7R,TP,1608 | |
| RC10 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| RC11 | 2203-005148 | C-CERAMIC,CHIP;100nF,10%,16V,X7R,TP,1608 | |
| RC12 | 2203-000560 | C-CERAMIC,CHIP;220nF,+80-20%,25V,Y5V,TP, | |
| RC13 | 2203-000560 | C-CERAMIC,CHIP;220nF,+80-20%,25V,Y5V,TP, | |
| RC14 | 2203-005148 | C-CERAMIC,CHIP;100nF,10%,16V,X7R,TP,1608 | |
| RC16 | 2203-005148 | C-CERAMIC,CHIP;100nF,10%,16V,X7R,TP,1608 | |
| RC17 | 2203-005148 | C-CERAMIC,CHIP;100nF,10%,16V,X7R,TP,1608 | |
| RC2 | 2203-005148 | C-CERAMIC,CHIP;100nF,10%,16V,X7R,TP,1608 | |
| RC20 | 2203-005148 | C-CERAMIC,CHIP;100nF,10%,16V,X7R,TP,1608 | |
| RC21 | 2203-000384 | C-CERAMIC,CHIP;0.015nF,5%,50V,NP0,TP,160 | |
| RC22 | 2203-005148 | C-CERAMIC,CHIP;100nF,10%,16V,X7R,TP,1608 | |
| RC23 | 2203-005148 | C-CERAMIC,CHIP;100nF,10%,16V,X7R,TP,1608 | |
| RC24 | 2203-001697 | C-CERAMIC,CHIP;0.082nF,5%,50V,NP0,TP,160 | |
| RC25 | 2203-005148 | C-CERAMIC,CHIP;100nF,10%,16V,X7R,TP,1608 | |
| RC26 | 2203-005148 | C-CERAMIC,CHIP;100nF,10%,16V,X7R,TP,1608 | |
| RC27 | 2203-005148 | C-CERAMIC,CHIP;100nF,10%,16V,X7R,TP,1608 | |
| RC28 | 2203-001052 | C-CERAMIC,CHIP;0.56nF,10%,50V,X7R,TP,160 | |
| RC29 | 2203-005148 | C-CERAMIC,CHIP;100nF,10%,16V,X7R,TP,1608 | |
| RC3 | 2203-005148 | C-CERAMIC,CHIP;100nF,10%,16V,X7R,TP,1608 | |
| RC30 | 2203-005148 | C-CERAMIC,CHIP;100nF,10%,16V,X7R,TP,1608 | |
| RC32 | 2203-005148 | C-CERAMIC,CHIP;100nF,10%,16V,X7R,TP,1608 | |
| RC33 | 2203-005148 | C-CERAMIC,CHIP;100nF,10%,16V,X7R,TP,1608 | |
| RC34 | 2203-005148 | C-CERAMIC,CHIP;100nF,10%,16V,X7R,TP,1608 | |
| RC35 | 2203-000236 | C-CERAMIC,CHIP;0.1nF,5%,50V,NP0,TP,1608 | |
| RC36 | 2203-000140 | C-CERAMIC,CHIP;1.5nF,10%,50V,X7R,TP,1608 | |
| RC39 | 2203-000531 | C-CERAMIC,CHIP;2.7nF,10%,50V,X7R,TP,1608 | |
| RC40 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| RC41 | 2203-005148 | C-CERAMIC,CHIP;100nF,10%,16V,X7R,TP,1608 | |
| RC42 | 2203-005148 | C-CERAMIC,CHIP;100nF,10%,16V,X7R,TP,1608 | |
| RC43 | 2203-005148 | C-CERAMIC,CHIP;100nF,10%,16V,X7R,TP,1608 | |
| RC44 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| RC45 | 2203-001652 | C-CERAMIC,CHIP;470nF,+80-20%,16V,Y5V,TP, | |
| RC46 | 2203-001652 | C-CERAMIC,CHIP;470nF,+80-20%,16V,Y5V,TP, | |
| RC47 | 2203-005148 | C-CERAMIC,CHIP;100nF,10%,16V,X7R,TP,1608 | |
| RC48 | 2203-001652 | C-CERAMIC,CHIP;470nF,+80-20%,16V,Y5V,TP, | |
| RC5 | 2203-005148 | C-CERAMIC,CHIP;100nF,10%,16V,X7R,TP,1608 | |
| RC50 | 2203-005148 | C-CERAMIC,CHIP;100nF,10%,16V,X7R,TP,1608 | |
| RC51 | 2203-005148 | C-CERAMIC,CHIP;100nF,10%,16V,X7R,TP,1608 | |
| RC52 | 2203-005148 | C-CERAMIC,CHIP;100nF,10%,16V,X7R,TP,1608 | |
| RC53 | 2203-005148 | C-CERAMIC,CHIP;100nF,10%,16V,X7R,TP,1608 | |

| Loc.No | Part No | Description ; Specification | Remark |
|---|---|---|---|
| RC54 | 2203-005148 | C-CERAMIC,CHIP;100nF,10%,16V,X7R,TP,1608 | |
| RC55 | 2203-000888 | C-CERAMIC,CHIP;4.7nF,10%,50V,X7R,TP,1608 | |
| RC56 | 2203-000626 | C-CERAMIC,CHIP;0.022nF,5%,50V,NP0,TP,160 | |
| RC6 | 2203-001052 | C-CERAMIC,CHIP;0.56nF,10%,50V,X7R,TP,160 | |
| RC7 | 2203-001640 | C-CERAMIC,CHIP;0.39nF,10%,50V,X7R,TP,160 | |
| RC8 | 2203-000384 | C-CERAMIC,CHIP;0.015nF,5%,50V,NP0,TP,160 | |
| RC9 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| RD1 | 0401-000008 | DIODE-SWITCHING;DAN217,80V,100mA,SOT-23, | |
| RD2 | 0403-001079 | DIODE-ZENER;UDZ3.9B,7%,200MW,SOD-323,TP | |
| RD3 | 0401-000008 | DIODE-SWITCHING;DAN217,80V,100mA,SOT-23, | |
| RD6 | 0407-000114 | DIODE-ARRAY;DAN202K,80V,100mA,CA2-3,SOT- | |
| RE11 | 2401-000913 | C-AL;22uF,20%,16V,GP,TP,5x11,5 | |
| RE12 | 2401-002144 | C-AL;47uF,20%,16V,GP,TP,5x11,5 | |
| RE13 | 2401-000414 | C-AL;10uF,20%,16V,GP,TP,4x7,5 | |
| RE14 | 2401-000913 | C-AL;22uF,20%,16V,GP,TP,5x11,5 | |
| RE17 | 2401-002144 | C-AL;47uF,20%,16V,GP,TP,5x11,5 | |
| RE2 | 2401-000414 | C-AL;10uF,20%,16V,GP,TP,4x7,5 | |
| RE8 | 2401-000414 | C-AL;10uF,20%,16V,GP,TP,4x7,5 | |
| RE9 | 2401-002144 | C-AL;47uF,20%,16V,GP,TP,5x11,5 | |
| RIC1 | AH13-10030Y | IC ASIC;-,KS1461,VQFP,100pin,RF IC | |
| RIC3 | 1202-000121 | IC-VOLTAGE COMP.;2903,SOP,8P,150MIL,DUAL | |
| RL2 | 2703-000398 | INDUCTOR-SMD;10uH,10%,3.2x2.5x2.2mm | |
| RL3 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | |
| RL4 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | |
| RL5 | 2703-000398 | INDUCTOR-SMD;10uH,10%,3.2x2.5x2.2mm | |
| RQ1 | 0501-000279 | TR-SMALL SIGNAL;KSA1182-Y,PNP,150mW,SOT- | |
| RQ2 | 0504-000128 | TR-DIGITAL;-,NPN,200MW,22K/22K,SOT-23,TP | |
| RQ3 | 0501-000279 | TR-SMALL SIGNAL;KSA1182-Y,PNP,150mW,SOT- | |
| RR1 | 2007-000091 | R-CHIP;12Kohm,5%,1/16W,DA,TP,1608 | |
| RR10 | 2007-001179 | R-CHIP;8.2Kohm,5%,1/16W,DA,TP,1608 | |
| RR11 | 2007-000512 | R-CHIP;2.4Kohm,5%,1/16W,DA,TP,1608 | |
| RR12 | 2007-000093 | R-CHIP;20Kohm,5%,1/16W,DA,TP,1608 | |
| RR13 | 2007-001179 | R-CHIP;8.2Kohm,5%,1/16W,DA,TP,1608 | |
| RR14 | 2007-000091 | R-CHIP;12Kohm,5%,1/16W,DA,TP,1608 | |
| RR15 | 2007-000092 | R-CHIP;15Kohm,5%,1/16W,DA,TP,1608 | |
| RR16 | 2007-000704 | R-CHIP;3.6Kohm,5%,1/16W,DA,TP,1608 | |
| RR17 | 2007-000092 | R-CHIP;15Kohm,5%,1/16W,DA,TP,1608 | |
| RR18 | 2007-000102 | R-CHIP;100Kohm,5%,1/16W,DA,TP,1608 | |
| RR19 | 2007-000102 | R-CHIP;100Kohm,5%,1/16W,DA,TP,1608 | |
| RR2 | 2007-000091 | R-CHIP;12Kohm,5%,1/16W,DA,TP,1608 | |
| RR20 | 2007-000084 | R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608 | |
| RR21 | 2007-000704 | R-CHIP;3.6Kohm,5%,1/16W,DA,TP,1608 | |
| RR22 | 2007-000102 | R-CHIP;100Kohm,5%,1/16W,DA,TP,1608 | |
| RR23 | 2007-000102 | R-CHIP;100Kohm,5%,1/16W,DA,TP,1608 | |
| RR24 | 2007-000078 | R-CHIP;1Kohm,5%,1/16W,DA,TP,1608 | |
| RR25 | 2007-000092 | R-CHIP;15Kohm,5%,1/16W,DA,TP,1608 | |
| RR28 | 2007-000078 | R-CHIP;1Kohm,5%,1/16W,DA,TP,1608 | |
| RR29 | 2007-000078 | R-CHIP;1Kohm,5%,1/16W,DA,TP,1608 | |
| RR3 | 2007-000091 | R-CHIP;12Kohm,5%,1/16W,DA,TP,1608 | |
| RR30 | 2007-000091 | R-CHIP;12Kohm,5%,1/16W,DA,TP,1608 | |
| RR31 | 2007-001179 | R-CHIP;8.2Kohm,5%,1/16W,DA,TP,1608 | |
| RR32 | 2007-000102 | R-CHIP;100Kohm,5%,1/16W,DA,TP,1608 | |
| RR33 | 2007-000082 | R-CHIP;3.3Kohm,5%,1/16W,DA,TP,1608 | |
| RR34 | 2007-000090 | R-CHIP;10Kohm,5%,1/16W,DA,TP,1608 | |
| RR35 | 2007-000092 | R-CHIP;15Kohm,5%,1/16W,DA,TP,1608 | |
| RR36 | 2007-000102 | R-CHIP;100Kohm,5%,1/16W,DA,TP,1608 | |
| RR37 | 2007-000102 | R-CHIP;100Kohm,5%,1/16W,DA,TP,1608 | |
| RR38 | 2007-000102 | R-CHIP;100Kohm,5%,1/16W,DA,TP,1608 | |
| RR39 | 2007-000102 | R-CHIP;100Kohm,5%,1/16W,DA,TP,1608 | |
| RR4 | 2007-000090 | R-CHIP;10Kohm,5%,1/16W,DA,TP,1608 | |
| RR40 | 2007-000655 | R-CHIP;27Kohm,5%,1/16W,DA,TP,1608 | |
| RR41 | 2007-000708 | R-CHIP;3.9Kohm,1%,1/16W,DA,TP,1608 | |
| RR43 | 2007-000090 | R-CHIP;10Kohm,5%,1/16W,DA,TP,1608 | |
| RR44 | 2007-000090 | R-CHIP;10Kohm,5%,1/16W,DA,TP,1608 | |
| RR45 | 2007-000090 | R-CHIP;10Kohm,5%,1/16W,DA,TP,1608 | |
| RR46 | 2007-000084 | R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608 | |
| RR47 | 2007-000102 | R-CHIP;100Kohm,5%,1/16W,DA,TP,1608 | |
| RR48 | 2007-000102 | R-CHIP;100Kohm,5%,1/16W,DA,TP,1608 | |
| RR49 | 2007-000084 | R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608 | |
| RR50 | 2007-000084 | R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608 | |
| RR51 | 2007-000134 | R-CHIP;33Kohm,5%,1/16W,DA,TP,1608 | |
| RR52 | 2007-000077 | R-CHIP;470ohm,5%,1/16W,DA,TP,1608 | |
| RR53 | 2007-000312 | R-CHIP;10OHM,5%,1/8W,DA,TP,3216 | |
| RR57 | 2007-000090 | R-CHIP;10Kohm,5%,1/16W,DA,TP,1608 | |
| RR58 | 2007-000092 | R-CHIP;15Kohm,5%,1/16W,DA,TP,1608 | |
| RR59 | 2007-000082 | R-CHIP;3.3Kohm,5%,1/16W,DA,TP,1608 | |
| RR6 | 2007-000092 | R-CHIP;15Kohm,5%,1/16W,DA,TP,1608 | |
| RR62 | 2007-000084 | R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608 | |
| RR65 | 2007-000082 | R-CHIP;3.3Kohm,5%,1/16W,DA,TP,1608 | |
| RR68 | 2007-000130 | R-CHIP;39Kohm,5%,1/16W,DA,TP,1608 | |
| RR69 | 2007-000091 | R-CHIP;12Kohm,5%,1/16W,DA,TP,1608 | |
| RR7 | 2007-000072 | R-CHIP;47ohm,5%,1/16W,DA,TP,1608 | |
| RR70 | 2007-000134 | R-CHIP;33Kohm,5%,1/16W,DA,TP,1608 | |
| RR72 | 2007-000103 | R-CHIP;120Kohm,5%,1/16W,DA,TP,1608 | |
| RR8 | 2007-000077 | R-CHIP;470ohm,5%,1/16W,DA,TP,1608 | |
| RR80 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| RR81 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| RR82 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| RR83 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| RR85 | 2007-000108 | R-CHIP;510Kohm,5%,1/16W,DA,TP,1608 | |
| RR86 | 2007-000092 | R-CHIP;15Kohm,5%,1/16W,DA,TP,1608 | |
| RR87 | 2007-000084 | R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608 | |
| RR9 | 2007-000312 | R-CHIP;10OHM,5%,1/8W,DA,TP,3216 | |
| SC1 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| SC10 | 2203-001222 | C-CERAMIC,CHIP;820pF,10%,50V,X7R,TP,1608 | |
| SC11 | 2203-005148 | C-CERAMIC,CHIP;100nF,10%,16V,X7R,TP,1608 | |
| SC14 | 2203-000491 | C-CERAMIC,CHIP;2.2nF,10%,50V,X7R,TP,1608 | |
| SC15 | 2203-001052 | C-CERAMIC,CHIP;0.56nF,10%,50V,X7R,TP,160 | |
| SC16 | 2203-005148 | C-CERAMIC,CHIP;100nF,10%,16V,X7R,TP,1608 | |
| SC17 | 2203-000560 | C-CERAMIC,CHIP;220nF,+80-20%,25V,Y5V,TP, | |
| SC18 | 2203-005148 | C-CERAMIC,CHIP;100nF,10%,16V,X7R,TP,1608 | |
| SC19 | 2203-000140 | C-CERAMIC,CHIP;1.5nF,10%,50V,X7R,TP,1608 | |
| SC2 | 2203-001573 | C-CERAMIC,CHIP;0.012nF,5%,50V,NP0,TP,160 | |
| SC20 | 2203-001640 | C-CERAMIC,CHIP;0.39nF,10%,50V,X7R,TP,160 | |
| SC26 | 2203-002398 | C-CERAMIC,CHIP;22nF,10%,50V,X7R,TP,1608 | |
| SC29 | 2203-000372 | C-CERAMIC,CHIP;15nF,10%,50V,X7R,TP,1608, | |
| SC3 | 2203-001573 | C-CERAMIC,CHIP;0.012nF,5%,50V,NP0,TP,160 | |
| SC30 | 2203-000372 | C-CERAMIC,CHIP;15nF,10%,50V,X7R,TP,1608, | |
| SC31 | 2203-000491 | C-CERAMIC,CHIP;2.2nF,10%,50V,X7R,TP,1608 | |
| SC32 | 2203-000491 | C-CERAMIC,CHIP;2.2nF,10%,50V,X7R,TP,1608 | |
| SC33 | 2203-005148 | C-CERAMIC,CHIP;100nF,10%,16V,X7R,TP,1608 | |
| SC36 | 2203-005148 | C-CERAMIC,CHIP;100nF,10%,16V,X7R,TP,1608 | |
| SC38 | 2203-005148 | C-CERAMIC,CHIP;100nF,10%,16V,X7R,TP,1608 | |
| SC40 | 2203-005148 | C-CERAMIC,CHIP;100nF,10%,16V,X7R,TP,1608 | |
| SC41 | 2203-000560 | C-CERAMIC,CHIP;220nF,+80-20%,25V,Y5V,TP, | |
| SC44 | 2203-002398 | C-CERAMIC,CHIP;22nF,10%,50V,X7R,TP,1608 | |
| SC49 | 2203-005148 | C-CERAMIC,CHIP;100nF,10%,16V,X7R,TP,1608 | |
| SC50 | 2203-005148 | C-CERAMIC,CHIP;100nF,10%,16V,X7R,TP,1608 | |
| SC51 | 2203-005148 | C-CERAMIC,CHIP;100nF,10%,16V,X7R,TP,1608 | |
| SC52 | 2203-005148 | C-CERAMIC,CHIP;100nF,10%,16V,X7R,TP,1608 | |
| SC53 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| SC55 | 2203-005148 | C-CERAMIC,CHIP;100nF,10%,16V,X7R,TP,1608 | |
| SC57 | 2203-005148 | C-CERAMIC,CHIP;100nF,10%,16V,X7R,TP,1608 | |
| SC58 | 2203-005148 | C-CERAMIC,CHIP;100nF,10%,16V,X7R,TP,1608 | |
| SC59 | 2203-005148 | C-CERAMIC,CHIP;100nF,10%,16V,X7R,TP,1608 | |
| SC6 | 2203-005148 | C-CERAMIC,CHIP;100nF,10%,16V,X7R,TP,1608 | |
| SC60 | 2203-005148 | C-CERAMIC,CHIP;100nF,10%,16V,X7R,TP,1608 | |
| SC61 | 2203-005148 | C-CERAMIC,CHIP;100nF,10%,16V,X7R,TP,1608 | |
| SC62 | 2203-005148 | C-CERAMIC,CHIP;100nF,10%,16V,X7R,TP,1608 | |
| SC64 | 2203-000626 | C-CERAMIC,CHIP;0.022nF,5%,50V,NP0,TP,160 | |
| SC65 | 2203-000626 | C-CERAMIC,CHIP;0.022nF,5%,50V,NP0,TP,160 | |
| SC66 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |

| Loc.No | Part No | Description ; Specification | Remark |
|---|---|---|---|
| SC68 | 2203-005148 | C-CERAMIC,CHIP;100nF,10%,16V,X7R,TP,1608 | |
| SC7 | 2203-005148 | C-CERAMIC,CHIP;100nF,10%,16V,X7R,TP,1608 | |
| SC9 | 2203-000560 | C-CERAMIC,CHIP;220nF,+80-20%,25V,Y5V,TP, | |
| SD2 | 0407-000114 | DIODE-ARRAY;DAN202K,80V,100mA,CA2-3,SOT- | |
| SD3 | 0407-000114 | DIODE-ARRAY;DAN202K,80V,100mA,CA2-3,SOT- | |
| SE1 | 2401-002165 | C-AL;100uF,20%,16V,GP,TP,6.3x7,5 | |
| SE2 | 2401-002144 | C-AL;47uF,20%,16V,GP,TP,5x11,5 | |
| SE3 | 2401-002165 | C-AL;100uF,20%,16V,GP,TP,6.3x7,5 | |
| SE5 | 2401-000913 | C-AL;22uF,20%,16V,GP,TP,5x11,5 | |
| SE53 | 2401-002144 | C-AL;47uF,20%,16V,GP,TP,5x11,5 | |
| SE54 | 2401-002075 | C-AL;4.7uF,20%,50V,GP,TP,5x11,5 | |
| SE55 | 2401-002075 | C-AL;4.7uF,20%,50V,GP,TP,5x11,5 | |
| SE56 | 2401-002075 | C-AL;4.7uF,20%,50V,GP,TP,5x11,5 | |
| SE63 | 2401-000414 | C-AL;10uF,20%,16V,GP,TP,4x7,5 | |
| SIC1 | AH13-10030N | IC-ASIC;-,KS1452,QFP,80P,DSSP IC | |
| SIC3 | 0801-002097 | IC-CMOS LOGIC;7SET08,AND GATE,SOP,5P,110 | |
| SIC4 | 1003-001298 | IC-MOTOR DRIVER;KA3017,HQFP,48P,550MIL,1 | |
| SIC8 | AH14-10004T | IC-ANALOG M/PLEXER;MC14053BD,SOP,TAPE 16 | |
| SL2 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | |
| SL4 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | |
| SQ1 | 0504-000128 | TR-DIGITAL;-,NPN,200MW,22K/22K,SOT-23,TP | |
| SQ2 | 0504-000156 | TR-DIGITAL;DTA124EKA,PNP,200mW,22K-22K | |
| SR1 | 2007-000090 | R-CHIP;10Kohm,5%,1/16W,DA,TP,1608 | |
| SR10 | 2007-000084 | R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608 | |
| SR11 | 2007-000107 | R-CHIP;470Kohm,5%,1/16W,DA,TP,1608 | |
| SR12 | 2007-001235 | R-CHIP;910Kohm,5%,1/16W,DA,TP,1608 | |
| SR14 | 2007-000450 | R-CHIP;180ohm,5%,1/16W,DA,TP,1608 | |
| SR15 | 2007-000102 | R-CHIP;100Kohm,5%,1/16W,DA,TP,1608 | |
| SR16 | 2007-000131 | R-CHIP;91Kohm,5%,1/16W,DA,TP,1608 | |
| SR17 | 2007-000081 | R-CHIP;2.7Kohm,5%,1/16W,DA,TP,1608 | |
| SR18 | 2007-000093 | R-CHIP;20Kohm,5%,1/16W,DA,TP,1608 | |
| SR19 | 2007-000092 | R-CHIP;15Kohm,5%,1/16W,DA,TP,1608 | |
| SR2 | 2007-000109 | R-CHIP;1Mohm,5%,1/16W,DA,TP,1608 | |
| SR20 | 2007-000092 | R-CHIP;15Kohm,5%,1/16W,DA,TP,1608 | |
| SR21 | 2007-000070 | R-CHIP;0ohm,5%,1/16W,DA,TP,1608 | |
| SR22 | 2007-000070 | R-CHIP;0ohm,5%,1/16W,DA,TP,1608 | |
| SR23 | 2007-000130 | R-CHIP;39Kohm,5%,1/16W,DA,TP,1608 | |
| SR24 | 2007-000070 | R-CHIP;0ohm,5%,1/16W,DA,TP,1608 | |
| SR25 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| SR26 | 2007-000091 | R-CHIP;12Kohm,5%,1/16W,DA,TP,1608 | |
| SR3 | 2007-000090 | R-CHIP;10Kohm,5%,1/16W,DA,TP,1608 | |
| SR32 | 2007-000080 | R-CHIP;2Kohm,5%,1/16W,DA,TP,1608 | |
| SR33 | 2007-000080 | R-CHIP;2Kohm,5%,1/16W,DA,TP,1608 | |
| SR34 | 2007-000124 | R-CHIP;2.2Kohm,5%,1/16W,DA,TP,1608 | |
| SR35 | 2007-000124 | R-CHIP;2.2Kohm,5%,1/16W,DA,TP,1608 | |
| SR36 | 2007-000124 | R-CHIP;2.2Kohm,5%,1/16W,DA,TP,1608 | |
| SR37 | 2007-000124 | R-CHIP;2.2Kohm,5%,1/16W,DA,TP,1608 | |
| SR38 | 2007-000092 | R-CHIP;15Kohm,5%,1/16W,DA,TP,1608 | |
| SR39 | 2007-000090 | R-CHIP;10Kohm,5%,1/16W,DA,TP,1608 | |
| SR4 | 2007-000090 | R-CHIP;10Kohm,5%,1/16W,DA,TP,1608 | |
| SR40 | 2007-000101 | R-CHIP;82Kohm,5%,1/16W,DA,TP,1608 | |
| SR41 | 2007-000084 | R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608 | |
| SR42 | 2007-000090 | R-CHIP;10Kohm,5%,1/16W,DA,TP,1608 | |
| SR43 | 2007-000106 | R-CHIP;220Kohm,5%,1/16W,DA,TP,1608 | |
| SR44 | 2007-000098 | R-CHIP;56Kohm,5%,1/16W,DA,TP,1608 | |
| SR45 | 2007-000655 | R-CHIP;27Kohm,5%,1/16W,DA,TP,1608 | |
| SR47 | 2007-000070 | R-CHIP;0ohm,5%,1/16W,DA,TP,1608 | |
| SR5 | 2007-001179 | R-CHIP;8.2Kohm,5%,1/16W,DA,TP,1608 | |
| SR52 | 2007-000704 | R-CHIP;3.6Kohm,5%,1/16W,DA,TP,1608 | |
| SR53 | 2007-000123 | R-CHIP;1.5Kohm,5%,1/16W,DA,TP,1608 | |
| SR6 | 2007-000098 | R-CHIP;56Kohm,5%,1/16W,DA,TP,1608 | |
| SR60 | 2007-000097 | R-CHIP;47Kohm,5%,1/16W,DA,TP,1608 | |
| SR67 | 2007-000034 | R-CHIP;1OHM,5%,1/8W,DA,TP,3216 | |
| SR68 | 2007-000034 | R-CHIP;1OHM,5%,1/8W,DA,TP,3216 | |
| SR7 | 2007-000799 | R-CHIP;360ohm,5%,1/16W,DA,TP,1608 | |
| SR70 | 2007-000090 | R-CHIP;10Kohm,5%,1/16W,DA,TP,1608 | |

| Loc.No | Part No | Description ; Specification | Remark |
|---|---|---|---|
| SR71 | 2007-000090 | R-CHIP;10Kohm,5%,1/16W,DA,TP,1608 | |
| SR73 | 2007-000090 | R-CHIP;10Kohm,5%,1/16W,DA,TP,1608 | |
| SR74 | 2007-000090 | R-CHIP;10Kohm,5%,1/16W,DA,TP,1608 | |
| SR75 | 2007-000092 | R-CHIP;15Kohm,5%,1/16W,DA,TP,1608 | |
| SR76 | 2007-000616 | R-CHIP;24Kohm,5%,1/16W,DA,TP,1608 | |
| SR77 | 2007-001179 | R-CHIP;8.2Kohm,5%,1/16W,DA,TP,1608 | |
| SR80 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| SR81 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| SR82 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| SR83 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| SR84 | 2007-000070 | R-CHIP;0ohm,5%,1/16W,DA,TP,1608 | |
| SR85 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| SR9 | 2007-000084 | R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608 | |
| SY1 | 2801-000261 | CRYSTAL-UNIT;33.8688MHZ,50PPM,28-AAA,12P | |
| VR1 | 2104-001068 | VR-SMD;10Kohm,25%,1/20W,TOP | |
| ZC1 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| ZC10 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| ZC11 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| ZC12 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| ZC13 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| ZC14 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| ZC15 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| ZC16 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| ZC17 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| ZC18 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| ZC19 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| ZC2 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| ZC29 | 2203-005148 | C-CERAMIC,CHIP;100nF,10%,16V,X7R,TP,1608 | |
| ZC3 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| ZC37 | 2203-005148 | C-CERAMIC,CHIP;100nF,10%,16V,X7R,TP,1608 | |
| ZC38 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| ZC39 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| ZC4 | 2203-000626 | C-CERAMIC,CHIP;0.022nF,5%,50V,NP0,TP,160 | |
| ZC40 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| ZC41 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| ZC42 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| ZC43 | 2203-001652 | C-CERAMIC,CHIP;470nF,+80-20%,16V,Y5V,TP, | |
| ZC44 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| ZC45 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| ZC46 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| ZC47 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| ZC48 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| ZC49 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| ZC5 | 2203-000626 | C-CERAMIC,CHIP;0.022nF,5%,50V,NP0,TP,160 | |
| ZC50 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| ZC51 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| ZC58 | 2203-000440 | C-CERAMIC,CHIP;1nF,10%,50V,X7R,TP,1608,- | |
| ZC59 | 2203-005148 | C-CERAMIC,CHIP;100nF,10%,16V,X7R,TP,1608 | |
| ZC6 | 2203-000626 | C-CERAMIC,CHIP;0.022nF,5%,50V,NP0,TP,160 | |
| ZC60 | 2203-000681 | C-CERAMIC,CHIP;0.027nF,5%,50V,NP0,TP,160 | |
| ZC61 | 2007-000070 | R-CHIP;0ohm,5%,1/16W,DA,TP,1608 | |
| ZC62 | 2203-000681 | C-CERAMIC,CHIP;0.027nF,5%,50V,NP0,TP,160 | |
| ZC63 | 2203-000626 | C-CERAMIC,CHIP;0.022nF,5%,50V,NP0,TP,160 | |
| ZC65 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| ZC66 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| ZC67 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| ZC68 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| ZC69 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| ZC7 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| ZC70 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| ZC71 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| ZC72 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| ZC73 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| ZC74 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| ZC75 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| ZC76 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |

| Loc.No | Part No | Description ; Specification | Remark |
|---|---|---|---|
| ZC77 | 2203-000426 | C-CERAMIC,CHIP;0.018nF,5%,50V,NP0,TP,160 | |
| ZC78 | 2203-000626 | C-CERAMIC,CHIP;0.022nF,5%,50V,NP0,TP,160 | |
| ZC8 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| ZC9 | 2203-000257 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608 | |
| ZE30 | 2401-000414 | C-AL;10uF,20%,16V,GP,TP,4x7,5 | |
| ZE34 | 2401-000414 | C-AL;10uF,20%,16V,GP,TP,4x7,5 | |
| ZE35 | 2401-002144 | C-AL;47uF,20%,16V,GP,TP,5x11,5 | |
| ZE36 | 2401-000414 | C-AL;10uF,20%,16V,GP,TP,4x7,5 | |
| ZE37 | 2401-000414 | C-AL;10uF,20%,16V,GP,TP,4x7,5 | |
| ZIC1 | 1204-001673 | IC-DECODER;ZIVA4.1,QFP,208P,1100MIL,PLAS | |
| ZIC2 | 1105-001268 | IC-DRAM;3617161,16BIT,TSOP,50P-,7NS,3 | |
| ZIC3 | 1105-001268 | IC-DRAM;3617161,16BIT,TSOP,50P-,7NS,3 | |
| ZIC4 | AH14-10004R | IC;M74HCU04,SOP,TAPE 14P | |
| ZIC5 | 0402-000309 | DIODE-RECTIFIER;1SR154-400,400V,1A,PSM | |
| ZL10 | 2703-000398 | INDUCTOR-SMD;10uH,10%,3.2x2.5x2.2mm | |
| ZL11 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | |
| ZL12 | 2703-000398 | INDUCTOR-SMD;10uH,10%,3.2x2.5x2.2mm | |
| ZL2 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | |
| ZL6 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | |
| ZL7 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | |
| ZL9 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | |
| ZR1 | 2007-001164 | R-CHIP;75ohm,1%,1/16W,DA,TP,1608 | |
| ZR16 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| ZR17 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| ZR18 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| ZR23 | 2007-000078 | R-CHIP;1Kohm,5%,1/16W,DA,TP,1608 | |
| ZR27 | 2007-000084 | R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608 | |
| ZR28 | 2007-000084 | R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608 | |
| ZR29 | 2007-000078 | R-CHIP;1Kohm,5%,1/16W,DA,TP,1608 | |
| ZR30 | 2011-000475 | R-NETWORK;33ohm,5%,63mW,L,CHIP,8P,TP | |
| ZR31 | 2011-000475 | R-NETWORK;33ohm,5%,63mW,L,CHIP,8P,TP | |
| ZR32 | 2011-000475 | R-NETWORK;33ohm,5%,63mW,L,CHIP,8P,TP | |
| ZR33 | 2011-000475 | R-NETWORK;33ohm,5%,63mW,L,CHIP,8P,TP | |
| ZR34 | 2007-000113 | R-CHIP;33ohm,5%,1/16W,DA,TP,1608 | |
| ZR35 | 2007-000070 | R-CHIP;0ohm,5%,1/16W,DA,TP,1608 | |
| ZR37 | 2007-000113 | R-CHIP;33ohm,5%,1/16W,DA,TP,1608 | |
| ZR38 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| ZR68 | 2007-000078 | R-CHIP;1Kohm,5%,1/16W,DA,TP,1608 | |
| ZR69 | 2007-000070 | R-CHIP;0ohm,5%,1/16W,DA,TP,1608 | |
| ZR70 | 2007-000070 | R-CHIP;0ohm,5%,1/16W,DA,TP,1608 | |
| ZR71 | 2007-000070 | R-CHIP;0ohm,5%,1/16W,DA,TP,1608 | |
| ZR72 | 2011-000816 | R-NETWORK;100ohm,5%,63mW,L,CHIP,8P,TP | |
| ZR73 | 2007-000078 | R-CHIP;1Kohm,5%,1/16W,DA,TP,1608 | |
| ZR75 | 2007-001164 | R-CHIP;75ohm,1%,1/16W,DA,TP,1608 | |
| ZR76 | 2007-001164 | R-CHIP;75ohm,1%,1/16W,DA,TP,1608 | |
| ZR77 | 2007-001164 | R-CHIP;75ohm,1%,1/16W,DA,TP,1608 | |
| ZR78 | 2007-001164 | R-CHIP;75ohm,1%,1/16W,DA,TP,1608 | |
| ZR79 | 2007-007332 | R-CHIP;1.18KOHM,1%,1/10W,DA,TP,2012 | |
| ZR82 | 2007-000799 | R-CHIP;360ohm,5%,1/16W,DA,TP,1608 | |
| ZR84 | 2007-000078 | R-CHIP;1Kohm,5%,1/16W,DA,TP,1608 | |
| ZR86 | 2007-000078 | R-CHIP;1Kohm,5%,1/16W,DA,TP,1608 | |
| ZR88 | 2007-000078 | R-CHIP;1Kohm,5%,1/16W,DA,TP,1608 | |
| ZR89 | 2007-000109 | R-CHIP;1Mohm,5%,1/16W,DA,TP,1608 | |
| ZR90 | 2007-000070 | R-CHIP;0ohm,5%,1/16W,DA,TP,1608 | |
| ZR91 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| ZR92 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| ZR93 | 2007-000074 | R-CHIP;100ohm,5%,1/16W,DA,TP,1608 | |
| ZY1 | 2801-003554 | CRYSTAL-UNIT;27MHz,10ppm,28-AAM,12pF,40o | |

| Loc.No | Part No | Description ; Specification | Remark |
|---|---|---|---|
| **602** | **AH92-00338B** | **ASSY PCB-JACK;DVD-611/XEF,JACK PCB** | **DVD-611/611B/615** |
| AC10 | 2203-000192 | C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP, | |
| AC11 | 2301-000423 | C-FILM,PEF;3.3NF,5%,100V,TP,7X10X4.5MM,5 | |
| AC13 | 2301-000423 | C-FILM,PEF;3.3NF,5%,100V,TP,7X10X4.5MM,5 | |
| AC14 | 2301-000402 | C-FILM,PEF;1nF,5%,50V,TP,5x7x2.8mm,5mm | |
| AC15 | 2301-000402 | C-FILM,PEF;1nF,5%,50V,TP,5x7x2.8mm,5mm | |
| AC201 | 2203-000192 | C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP, | |
| AC202 | 2203-000260 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012 | |
| AC203 | 2203-000260 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012 | |
| AC4 | 2202-002037 | C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V | |
| AC5 | 2202-002037 | C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V | |
| AC6 | 2202-002037 | C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V | |
| AC7 | 2301-000402 | C-FILM,PEF;1nF,5%,50V,TP,5x7x2.8mm,5mm | |
| AC8 | 2301-000402 | C-FILM,PEF;1nF,5%,50V,TP,5x7x2.8mm,5mm | |
| AC9 | 2203-000192 | C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP, | |
| AD51 | 0407-000114 | DIODE-ARRAY;DAN202K,80V,100mA,CA2-3,SOT- | |
| AD54 | 0401-000101 | DIODE-SWITCHING;1N4148,100V,200mA,DO-35, | |
| AD55 | 0401-000101 | DIODE-SWITCHING;1N4148,100V,200mA,DO-35, | |
| AD60 | 0407-000116 | DIODE-ARRAY;DAP202K,80V,100mA,CK2-3,SOT- | |
| AE1 | 2401-002042 | C-AL;220uF,20%,10V,GP,TP,6.3x11,5 | |
| AE17 | 2401-000598 | C-AL;1uF,20%,50V,GP,TP,4x7,5 | |
| AE2 | 2401-002042 | C-AL;220uF,20%,10V,GP,TP,6.3x11,5 | |
| AE21 | 2401-002144 | C-AL;47uF,20%,16V,GP,TP,5x11,5 | |
| AE22 | 2401-002144 | C-AL;47uF,20%,16V,GP,TP,5x11,5 | |
| AE3 | 2401-002042 | C-AL;220uF,20%,10V,GP,TP,6.3x11,5 | |
| AE51 | 2401-001969 | C-AL;470uF,20%,25V,GP,TP,10x12.5,5 | |
| AE52 | 2401-000302 | C-AL;100uF,20%,25V,GP,TP,6.3x11,5 | |
| AE6 | 2401-000414 | C-AL;10uF,20%,16V,GP,TP,4x7,5 | |
| AE9 | 2401-000414 | C-AL;10uF,20%,16V,GP,TP,4x7,5 | |
| AIC1 | 1002-001213 | IC-D/A CONVERTER;AK4393VF,24BIT,SOP,28P, | |
| AIC3 | AH14-10004R | IC;M74HCU04,SOP,TAPE 14P | |
| AL1 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | |
| AL2 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | |
| AL201 | 2901-001125 | FILTER-EMI ON BOARD;50V,0.5A,-,220pF,7x2 | |
| AOP1 | 1201-000163 | IC-OP AMP;4560,SOP,8P,173MIL,DUAL,100V/m | |
| AQ1 | 0501-000341 | TR-SMALL SIGNAL;KSC1623-L,NPN,200mW,SOT- | |
| AQ3 | 0501-000341 | TR-SMALL SIGNAL;KSC1623-L,NPN,200mW,SOT- | |
| AQ51 | 0504-000128 | TR-DIGITAL;-,NPN,200MW,22K/22K,SOT-23,TP | |
| AQ52 | 0504-000156 | TR-DIGITAL;DTA124EKA,PNP,200mW,22K-22K | |
| AQ55 | 0504-000118 | TR-DIGITAL;KSR1003,NPN,300MW,22K/22K,TO- | |
| AQ56 | 0504-000118 | TR-DIGITAL;KSR1003,NPN,300MW,22K/22K,TO- | |
| AQ57 | 0504-001003 | TR-DIGITAL;KSR2003,PNP,300MW,22K/22K,TO- | |
| AR10 | 2007-000267 | R-CHIP;1.8KOHM,5%,1/10W,DA,TP,2012 | |
| AR11 | 2001-000258 | R-CARBON;1.8KOHM,5%,1/8W,AA,TP,1.8X3.2M | |
| AR14 | 2007-000468 | R-CHIP;1KOHM,5%,1/10W,DA,TP,2012 | |
| AR15 | 2007-000468 | R-CHIP;1KOHM,5%,1/10W,DA,TP,2012 | |
| AR16 | 2007-000468 | R-CHIP;1KOHM,5%,1/10W,DA,TP,2012 | |
| AR17 | 2007-000468 | R-CHIP;1KOHM,5%,1/10W,DA,TP,2012 | |
| AR18 | 2007-000221 | R-CHIP;1.2KOHM,5%,1/10W,DA,TP,2012 | |
| AR19 | 2007-000221 | R-CHIP;1.2KOHM,5%,1/10W,DA,TP,2012 | |
| AR2 | 2001-000258 | R-CARBON;1.8KOHM,5%,1/8W,AA,TP,1.8X3.2M | |
| AR201 | 2007-000766 | R-CHIP;330OHM,5%,1/10W,DA,TP,2012 | |
| AR202 | 2007-001247 | R-CHIP;91OHM,5%,1/10W,DA,TP,2012 | |
| AR203 | 2001-000515 | R-CARBON;220OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| AR21 | 2001-000290 | R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| AR22 | 2001-000515 | R-CARBON;220OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| AR24 | 2001-000515 | R-CARBON;220OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| AR26 | 2001-000429 | R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| AR28 | 2007-000468 | R-CHIP;1KOHM,5%,1/10W,DA,TP,2012 | |
| AR29 | 2007-000468 | R-CHIP;1KOHM,5%,1/10W,DA,TP,2012 | |
| AR3 | 2007-000468 | R-CHIP;1KOHM,5%,1/10W,DA,TP,2012 | |
| AR30 | 2007-000468 | R-CHIP;1KOHM,5%,1/10W,DA,TP,2012 | |
| AR31 | 2007-000468 | R-CHIP;1KOHM,5%,1/10W,DA,TP,2012 | |
| AR32 | 2007-000221 | R-CHIP;1.2KOHM,5%,1/10W,DA,TP,2012 | |
| AR33 | 2007-000221 | R-CHIP;1.2KOHM,5%,1/10W,DA,TP,2012 | |
| AR35 | 2001-000290 | R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |

| Loc.No | Part No | Description ; Specification | Remark |
|---|---|---|---|
| AR36 | 2001-000515 | R-CARBON;220OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| AR38 | 2001-000515 | R-CARBON;220OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| AR4 | 2007-000468 | R-CHIP;1KOHM,5%,1/10W,DA,TP,2012 | |
| AR40 | 2001-000429 | R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| AR5 | 2001-000429 | R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| AR51 | 2001-000429 | R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| AR54 | 2001-000281 | R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| AR55 | 2001-000241 | R-CARBON;1.5KOHM,5%,1/8W,AA,TP,1.8X3.2M | |
| AR56 | 2001-000281 | R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| AR6 | 2001-000429 | R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| AR7 | 2001-000429 | R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| AR8 | 2001-000429 | R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| AR9 | 2007-000267 | R-CHIP;1.8KOHM,5%,1/10W,DA,TP,2012 | |
| AVJ2 | 3722-001467 | JACK-RCA;3P,3.2mm,NI,BLK,- | |
| AVJ4 | 3722-001053 | JACK-RCA;1P,3.2mm,NI,BLK,- | |
| AVJ5 | 3707-001005 | CONNECTOR-OPTICAL;PLUG,SM,-,4.4/2.0MM | |
| AZD51 | 0403-000551 | DIODE-ZENER;MTZ3.9B,3.9V,3.89-4.16V,500m | |
| CN1 | 3708-001364 | CONNECTOR-FPC/FC/PIC;35P,1.25MM,STRAIGHT | |
| CN1A | 3809-001180 | CABLE-FLAT;30V,-30to+80C,80mm,35P,1.25mm | |
| CN3 | AH39-00179A | CONNECT WIRE;-,-,-,-,#26,-,-,-,-,-,-,-,-,1 | |
| FC10 | 2202-000797 | C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5S,TP, | |
| FC14 | 2202-000797 | C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5S,TP, | |
| FC15 | 2202-000797 | C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5S,TP, | |
| FC16 | 2203-000444 | C-CERAMIC,CHIP;1nF,10%,50V,X7R,TP,2012,- | |
| FC2 | 2202-000162 | C-CERAMIC,MLC-AXIAL;.015NF,5%,50V,SL,TP, | |
| FC3 | 2202-000162 | C-CERAMIC,MLC-AXIAL;.015NF,5%,50V,SL,TP, | |
| FC4 | 2202-000797 | C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5S,TP, | |
| FC6 | 2202-000797 | C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5S,TP, | |
| FC7 | 2202-002037 | C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V | |
| FD10 | 0401-000101 | DIODE-SWITCHING;1N4148,100V,200mA,DO-35, | |
| FD6 | 0401-000101 | DIODE-SWITCHING;1N4148,100V,200mA,DO-35, | |
| FD7 | 0401-000101 | DIODE-SWITCHING;1N4148,100V,200mA,DO-35, | |
| FD8 | 0401-000101 | DIODE-SWITCHING;1N4148,100V,200mA,DO-35, | |
| FD9 | 0403-000551 | DIODE-ZENER;MTZ3.9B,3.9V,3.89-4.16V,500m | |
| FE1 | 2401-000922 | C-AL;22uF,20%,16V,GP,TP,5x5,5 | |
| FE12 | 2401-001475 | C-AL;47uF,20%,10V,GP,TP,6.3x5,5mm | |
| FE5 | 2401-002144 | C-AL;47uF,20%,16V,GP,TP,5x11,5 | |
| FE8 | 2401-001507 | C-AL;47uF,20%,16V,GP,TP,6.3x5,5 | |
| FIC1 | AH09-00034A | IC MICOM;LC866232A,SANYO,100PIN,QFP,QFP | |
| FIC2 | 1203-001252 | IC-VOL. DETECTOR;7545,TO-92,3P,-,PLASTIC | |
| FIC4 | AH59-00010A | MODULE-REMOCON;-,-,37.9KHZ,940NM,-,-,- | |
| FL2 | 2701-000114 | INDUCTOR-AXIAL;10uH,10%,2.5x3.4mm | |
| FR1 | 2001-000273 | R-CARBON;100KOHM,5%,1/8W,AA,TP,1.8X3.2M | |
| FR10 | 2001-000281 | R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| FR101 | 2001-000273 | R-CARBON;100KOHM,5%,1/8W,AA,TP,1.8X3.2M | |
| FR102 | 2001-000273 | R-CARBON;100KOHM,5%,1/8W,AA,TP,1.8X3.2M | |
| FR103 | 2001-000273 | R-CARBON;100KOHM,5%,1/8W,AA,TP,1.8X3.2M | |
| FR104 | 2001-000273 | R-CARBON;100KOHM,5%,1/8W,AA,TP,1.8X3.2M | |
| FR105 | 2001-000273 | R-CARBON;100KOHM,5%,1/8W,AA,TP,1.8X3.2M | |
| FR106 | 2001-000273 | R-CARBON;100KOHM,5%,1/8W,AA,TP,1.8X3.2M | |
| FR11 | 2001-000281 | R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| FR12 | 2001-000281 | R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| FR13 | 2001-000281 | R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| FR16 | 2001-000027 | R-CARBON;100OHM,5%,1/4W,AA,TP,2.4X6.4MM | |
| FR17 | 2001-000027 | R-CARBON;100OHM,5%,1/4W,AA,TP,2.4X6.4MM | |
| FR18 | 2007-000493 | R-CHIP;2.2KOHM,5%,1/10W,DA,TP,2012 | |
| FR19 | 2001-000449 | R-CARBON;2.2KOHM,5%,1/8W,AA,TP,1.8X3.2M | |
| FR20 | 2001-000449 | R-CARBON;2.2KOHM,5%,1/8W,AA,TP,1.8X3.2M | |
| FR21 | 2001-000435 | R-CARBON;1MOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| FR24 | 2001-000281 | R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| FR25 | 2007-000029 | R-CHIP;0OHM,5%,1/10W,DA,TP,2012 | |
| FR26 | 2001-000281 | R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| FR2S | 2007-000029 | R-CHIP;0OHM,5%,1/10W,DA,TP,2012 | |
| FR31 | 2001-000273 | R-CARBON;100KOHM,5%,1/8W,AA,TP,1.8X3.2M | |
| FR32 | 2001-000273 | R-CARBON;100KOHM,5%,1/8W,AA,TP,1.8X3.2M | |
| FR33 | 2001-000273 | R-CARBON;100KOHM,5%,1/8W,AA,TP,1.8X3.2M | |
| FR34 | 2001-000273 | R-CARBON;100KOHM,5%,1/8W,AA,TP,1.8X3.2M | |
| FR35 | 2001-000273 | R-CARBON;100KOHM,5%,1/8W,AA,TP,1.8X3.2M | |
| FR36 | 2001-000273 | R-CARBON;100KOHM,5%,1/8W,AA,TP,1.8X3.2M | |
| FR37 | 2001-000273 | R-CARBON;100KOHM,5%,1/8W,AA,TP,1.8X3.2M | |
| FR43 | 2001-000793 | R-CARBON;47OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| FR44 | 2001-000429 | R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| FR45 | 2001-000429 | R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| FR46 | 2001-000273 | R-CARBON;100KOHM,5%,1/8W,AA,TP,1.8X3.2M | |
| FR4S | 2007-000029 | R-CHIP;0OHM,5%,1/10W,DA,TP,2012 | |
| FR5 | 2001-000325 | R-CARBON;120OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| FR51 | 2007-000029 | R-CHIP;0OHM,5%,1/10W,DA,TP,2012 | |
| FR52 | 2007-000029 | R-CHIP;0OHM,5%,1/10W,DA,TP,2012 | |
| FR7 | 2007-000282 | R-CHIP;100KOHM,5%,1/10W,DA,TP,2012 | |
| FY1 | 2802-000108 | RESONATOR-CERAMIC;12MHZ,0.5%,BK,10.0X5.0 | |
| HC3 | 2202-002037 | C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V | |
| HC4 | 2202-002037 | C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V | |
| HE3 | 2401-002075 | C-AL;4.7uF,20%,50V,GP,TP,5x11,5 | |
| HE4 | 2401-002075 | C-AL;4.7uF,20%,50V,GP,TP,5x11,5 | |
| HOP2 | 1201-000163 | IC-OP AMP;4560,SOP,8P,173MIL,DUAL,100V/m | |
| HR10 | 2007-000282 | R-CHIP;100KOHM,5%,1/10W,DA,TP,2012 | |
| HR15 | 2001-000515 | R-CARBON;220OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| HR16 | 2001-000515 | R-CARBON;220OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| HR9 | 2007-000282 | R-CHIP;100KOHM,5%,1/10W,DA,TP,2012 | |
| JP266 | 2007-000033 | R-CHIP;0OHM,5%,1/8W,DA,TP,3216 | |
| JP281 | 2007-000033 | R-CHIP;0OHM,5%,1/8W,DA,TP,3216 | |
| JP347 | 2008-000141 | R-FUSIBLE;2.2ohm,5%,1/4W,AA,TP,2.6x6.7mm | |
| JP383 | 2001-000780 | R-CARBON;470OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| JP385 | 2007-000033 | R-CHIP;0OHM,5%,1/8W,DA,TP,3216 | |
| JP58 | 2701-000114 | INDUCTOR-AXIAL;10uH,10%,2.5x3.4mm | |
| JP80 | 2007-000033 | R-CHIP;0OHM,5%,1/8W,DA,TP,3216 | |
| JP81 | 2007-000033 | R-CHIP;0OHM,5%,1/8W,DA,TP,3216 | |
| JP91 | 2008-000141 | R-FUSIBLE;2.2ohm,5%,1/4W,AA,TP,2.6x6.7mm | |
| PBD11 | 3301-000297 | CORE-FERRITE BEAD;AA,3.6x1.2x5.7mm,1400, | |
| PBF11 | 3301-000297 | CORE-FERRITE BEAD;AA,3.6x1.2x5.7mm,1400, | |
| PBS01 | 3301-000297 | CORE-FERRITE BEAD;AA,3.6x1.2x5.7mm,1400, | |
| PCD01 | 2201-000916 | C-CERAMIC,DISC;100pF,10%,400V,Y5U,TP,10x | ⚠ |
| PCD02 | 2201-000812 | C-CERAMIC,DISC;2.2nF,20%,400V,Y5U,BK,12. | ⚠ |
| PCD03 | 2201-000812 | C-CERAMIC,DISC;2.2nF,20%,400V,Y5U,BK,12. | ⚠ |
| PCD12 | 2201-000129 | C-CERAMIC,DISC;0.1nF,10%,1kV,Y5P,TP,7x4, | ⚠ |
| PCF01 | 2305-001021 | C-FILM,MPEF;100nF,20%,275V,TP,17.5x7x13. | ⚠ |
| PCF02 | 2305-001021 | C-FILM,MPEF;100nF,20%,275V,TP,17.5x7x13. | ⚠ |
| PCF11 | 2305-001029 | C-FILM,MPEF;10nF,10%,630V,TP,12x9x12.5,5 | |
| PCF13 | 2201-000376 | C-CERAMIC,DISC;0.22nF,5%,50V,SL,TP,6.3x3 | |
| PCNS1 | AH39-00177A | CONNECT WIRE;-,-,-,-,#24,-,-,-,-,-,-,-,-,1 | |
| PCNS2 | 3711-000178 | CONNECTOR-HEADER;1WALL,2P,1R,3.96mm,STRA | ⚠ |
| PCS03 | 2201-000916 | C-CERAMIC,DISC;100pF,10%,400V,Y5U,TP,10x | ⚠ |
| PCS31 | 2301-000381 | C-FILM,PEF;10nF,5%,50V,TP,6.5x5.5x3mm,5m | |
| PCS32 | 2203-000192 | C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP, | |
| PDD35 | 0402-001195 | DIODE-RECTIFIER;F1T4,400V,1.0A,TS-1,TP | |
| PDF01 | 0402-001196 | DIODE-RECTIFIER;1T5,600V,1A,TS-1,TP | |
| PDF12 | 0402-001195 | DIODE-RECTIFIER;F1T4,400V,1.0A,TS-1,TP | |
| PDF13 | 0402-001195 | DIODE-RECTIFIER;F1T4,400V,1.0A,TS-1,TP | |
| PDL51 | 0401-000101 | DIODE-SWITCHING;1N4148,100V,200mA,DO-35, | |
| PDL52 | 0401-000101 | DIODE-SWITCHING;1N4148,100V,200mA,DO-35, | |
| PDL55 | 0401-000101 | DIODE-SWITCHING;1N4148,100V,200mA,DO-35, | |
| PDS01 | 0402-001196 | DIODE-RECTIFIER;1T5,600V,1A,TS-1,TP | |
| PDS02 | 0402-001196 | DIODE-RECTIFIER;1T5,600V,1A,TS-1,TP | |
| PDS03 | 0402-001196 | DIODE-RECTIFIER;1T5,600V,1A,TS-1,TP | |
| PDS04 | 0402-001196 | DIODE-RECTIFIER;1T5,600V,1A,TS-1,TP | |
| PDS11 | 0402-000276 | DIODE-RECTIFIER;UF4007,1KV,1A,DO-41,TP | |
| PDS31 | 0402-001195 | DIODE-RECTIFIER;F1T4,400V,1.0A,TS-1,TP | |
| PDS32 | 0402-001194 | DIODE-RECTIFIER;UG2D,200V,2A,DO-204AC,TP | |
| PDS33 | 0404-001097 | DIODE-SCHOTTKY;SG45,45V,7500mA,TO-220A,B | |
| PDS34 | 0404-001097 | DIODE-SCHOTTKY;SG45,45V,7500mA,TO-220A,B | |
| PDS36 | 0402-001195 | DIODE-RECTIFIER;F1T4,400V,1.0A,TS-1,TP | |
| PDS51 | 0401-000101 | DIODE-SWITCHING;1N4148,100V,200mA,DO-35, | |

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|---|---|---|---|
| PDS52 | 0402-000132 | DIODE-RECTIFIER;1N4004,400V,1A,DO-41,TP | |
| PEF10 | 2401-001682 | C-AL;82uF,20%,400V,GP,BK,22x25,10 | ⚠ |
| PEF12 | 2401-002608 | C-AL;33uF,20%,35V,GP,TP,5x11,5 | |
| PES31 | 2401-000302 | C-AL;100uF,20%,25V,GP,TP,6.3x11,5 | |
| PES32 | 2401-000302 | C-AL;100uF,20%,25V,GP,TP,6.3x11,5 | |
| PES33 | 2401-000118 | C-AL;1000uF,20%,10V,GP,TP,10x12.5,5 | |
| PES34 | 2401-000118 | C-AL;1000uF,20%,10V,GP,TP,10x12.5,5 | |
| PES35 | 2401-003046 | C-AL;47uF,20%,50V,WT,TP,6.3x11,2.5 | |
| PES36 | 2401-001353 | C-AL;470uF,20%,10V,GP,TP,8x11.5,5 | |
| PES37 | 2401-002042 | C-AL;220uF,20%,10V,GP,TP,6.3x11,5 | |
| PES51 | 2401-002144 | C-AL;47uF,20%,16V,GP,TP,5x11,5 | |
| PES52 | 2401-000598 | C-AL;1uF,20%,50V,GP,TP,4x7,5 | |
| PES53 | 2401-000302 | C-AL;100uF,20%,25V,GP,TP,6.3x11,5 | |
| PES54 | 2401-002144 | C-AL;47uF,20%,16V,GP,TP,5x11,5 | |
| PES56 | 2401-000302 | C-AL;100uF,20%,25V,GP,TP,6.3x11,5 | |
| PES57 | 2401-000302 | C-AL;100uF,20%,25V,GP,TP,6.3x11,5 | |
| PES58 | 2401-001353 | C-AL;470uF,20%,10V,GP,TP,8x11.5,5 | |
| PFD01 | 3601-001123 | FUSE-CARTRIDGE;250V,1.6A,TIME-LAG,CERAMI | ⚠ |
| PICF1 | 1203-001802 | IC-PWM CONTROLLER;STR-G6551,TO-220F,5P,- | ⚠ |
| PICS1 | 0604-000186 | PHOTO-COUPLER;TR,-,200mW,DIP-4,ST | ⚠ |
| PICS2 | AC14-12006D | IC;KA431Z,TO-92,TAPING | |
| PICS3 | 1203-000122 | IC-NEGA.FIXED REG.;7908,TO-220,3P,-,PLAS | |
| PICS4 | 1203-001697 | IC-VOLTAGE REGULATOR;78R08,TO-220,4P,-,P | |
| PICS5 | 1203-001083 | IC-VOLTAGE REGULATOR;3RF23,TO-202,4P,12. | |
| PLF01 | AC29-30050A | FILTER-LINE NOISE;-,400UH,-,250V,- | ⚠ |
| PLS01 | AC29-30050C | FILTER-LINE NOISE;-,25MH,0.35A,AC250V,BS | ⚠ |
| PLS31 | AC27-12001N | COIL-CHOKE;10UH-15%,RA,K-30,Q80,150KHZ,- | |
| POWER | 0601-001447 | LED;ROUND,RED,3.1mm,650nm | |
| PQL51 | 0504-000152 | TR-DIGITAL;KSR2101,PNP,200MW,4.7K/4.7K,S | |
| PQL52 | 0501-000442 | TR-SMALL SIGNAL;KTC3203-Y,NPN,400MW,TO-9 | |
| PQL53 | 0504-000152 | TR-DIGITAL;KSR2101,PNP,200MW,4.7K/4.7K,S | |
| PQL54 | 0501-000442 | TR-SMALL SIGNAL;KTC3203-Y,NPN,400MW,TO-9 | |
| PQL55 | 0501-000442 | TR-SMALL SIGNAL;KTC3203-Y,NPN,400MW,TO-9 | |
| PQL56 | 0504-000152 | TR-DIGITAL;KSR2101,PNP,200MW,4.7K/4.7K,S | |
| PQL57 | 0504-000126 | TR-DIGITAL;KSR1101,NPN,200MW,4.7K/4.7K,S | |
| PQL58 | 0501-000303 | TR-SMALL SIGNAL;KSA733,PNP,250mW,TO-92,T | |
| PQS55 | 0504-000152 | TR-DIGITAL;KSR2101,PNP,200MW,4.7K/4.7K,S | |
| PQS56 | 0504-000128 | TR-DIGITAL;-,NPN,200MW,22K/22K,SOT-23,TP | |
| PQS57 | 0501-000616 | TR-SMALL SIGNAL;KSC2328A-Y,NPN,1W,TO-92L | |
| PQS58 | 0501-000616 | TR-SMALL SIGNAL;KSC2328A-Y,NPN,1W,TO-92L | |
| PRD31 | 2007-000468 | R-CHIP;1KOHM,5%,1/10W,DA,TP,2012 | |
| PRD32 | 2007-000931 | R-CHIP;470OHM,5%,1/10W,DA,TP,2012 | |
| PRF10 | 2006-000262 | R-CEMENT;2.7ohm,10%,2W,CB,TP,7.5x11x20. | |
| PRF11 | 2001-000076 | R-CARBON;47KOHM,5%,1/4W,AA,TP,2.4X6.4MM | |
| PRF12 | 2001-000076 | R-CARBON;47KOHM,5%,1/4W,AA,TP,2.4X6.4MM | |
| PRF13 | 2001-000076 | R-CARBON;47KOHM,5%,1/4W,AA,TP,2.4X6.4MM | |
| PRF14 | 2001-000076 | R-CARBON;47KOHM,5%,1/4W,AA,TP,2.4X6.4MM | |
| PRF15 | 2001-000096 | R-CARBON(S);1MOHM,5%,1/2W,AA,TP,2.4X6.4M | |
| PRF16 | 2001-000938 | R-CARBON;68OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| PRF17 | 2001-000591 | R-CARBON;3.3KOHM,5%,1/8W,AA,TP,1.8X3.2M | |
| PRF19 | 2001-000429 | R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| PRF20 | 2003-000105 | R-METAL OXIDE;0.33ohm,5%,2W,AD,TP,6x16mm | |
| PRL51 | 2001-000449 | R-CARBON;2.2KOHM,5%,1/8W,AA,TP,1.8X3.2M | |
| PRL52 | 2001-000290 | R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| PRL53 | 2001-000449 | R-CARBON;2.2KOHM,5%,1/8W,AA,TP,1.8X3.2M | |
| PRL54 | 2001-000290 | R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| PRL55 | 2001-000290 | R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| PRL56 | 2001-000449 | R-CARBON;2.2KOHM,5%,1/8W,AA,TP,1.8X3.2M | |
| PRL57 | 2001-000273 | R-CARBON;100KOHM,5%,1/8W,AA,TP,1.8X3.2M | |
| PRL58 | 2001-000449 | R-CARBON;2.2KOHM,5%,1/8W,AA,TP,1.8X3.2M | |
| PRS11 | 2003-000273 | R-METAL OXIDE;33Kohm,5%,2W,AA,TP,6x16mm | |
| PRS12 | 2003-000273 | R-METAL OXIDE;33Kohm,5%,2W,AA,TP,6x16mm | |
| PRS31 | 2001-000440 | R-CARBON;1OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| PRS32 | 2007-000468 | R-CHIP;1KOHM,5%,1/10W,DA,TP,2012 | |
| PRS33 | 2004-000869 | R-METAL;3Kohm,1%,1/8W,AA,TP,1.8x3.2mm | |
| PRS34 | 2004-000459 | R-METAL;2.2Kohm,1%,1/8W,AA,TP,1.8x3.2m | |

| Loc.No | Part No | Description ; Specification | Remark |
|---|---|---|---|
| PRS54 | 2001-000449 | R-CARBON;2.2KOHM,5%,1/8W,AA,TP,1.8X3.2M | |
| PRS55 | 2001-000062 | R-CARBON;470OHM,5%,1/4W,AA,TP,2.4X6.4MM | |
| PRS56 | 2001-000429 | R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| PTD1 | AC26-00001M | TRANS-SWITCHING;-,-,-,100V-240V,DEMCO,EE | ⚠ |
| PVA1 | 1405-000186 | VARISTOR;470V,4500A,17x12mm,TP | ⚠ |
| PZS51 | 0403-000717 | DIODE-ZENER;MTZJ 5.1B,5.1V,4.94-5.2V,500m | |
| SCC11 | 2203-000192 | C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP, | |
| SCC12 | 2203-000192 | C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP, | |
| SCC14 | 2203-000192 | C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP, | |
| SCC3 | 2203-000239 | C-CERAMIC,CHIP;0.1nF,5%,50V,NP0,TP,2012 | |
| SCC4 | 2203-000239 | C-CERAMIC,CHIP;0.1nF,5%,50V,NP0,TP,2012 | |
| SCC7 | 2203-000239 | C-CERAMIC,CHIP;0.1nF,5%,50V,NP0,TP,2012 | |
| SCC8 | 2203-000239 | C-CERAMIC,CHIP;0.1nF,5%,50V,NP0,TP,2012 | |
| SCD1 | 0407-000114 | DIODE-ARRAY;DAN202K,80V,100mA,CA2-3,SOT- | |
| SCD3 | 0407-000114 | DIODE-ARRAY;DAN202K,80V,100mA,CA2-3,SOT- | |
| SCD4 | 0403-000297 | DIODE-ZENER;MTZ6.2B,6.2V,5.96-6.27V,500m | |
| SCE10 | 2401-001479 | C-AL;470uF,20%,10V,GP,TP,-,- | |
| SCE11 | 2401-000913 | C-AL;22uF,20%,16V,GP,TP,5x11,5 | |
| SCE12 | 2401-001479 | C-AL;470uF,20%,10V,GP,TP,-,- | |
| SCE13 | 2401-000913 | C-AL;22uF,20%,16V,GP,TP,5x11,5 | |
| SCE14 | 2401-001479 | C-AL;470uF,20%,10V,GP,TP,-,- | |
| SCE15 | 2401-000913 | C-AL;22uF,20%,16V,GP,TP,5x11,5 | |
| SCE16 | 2401-002042 | C-AL;220uF,20%,10V,GP,TP,6.3x11,5 | |
| SCE17 | 2401-001353 | C-AL;470uF,20%,10V,GP,TP,8x11.5,5 | |
| SCE4 | 2401-002075 | C-AL;4.7uF,20%,50V,GP,TP,5x11,5 | |
| SCE5 | 2401-000913 | C-AL;22uF,20%,16V,GP,TP,5x11,5 | |
| SCE6 | 2401-000369 | C-AL;100uF,20%,6.3V,GP,-,6.3x11,5 | |
| SCIC3 | AH14-10004T | IC-ANALOG M/PLEXER;MC14053BD,SOP,TAPE 16 | |
| SCIC4 | 1201-001063 | IC-OP AMP;2267,SOP,8P,300MIL,DUAL,6.7dB, | |
| SCIC6 | 1201-001419 | IC-VIDEO AMP;7660,SSOP,16P,173MIL,3,6DB, | |
| SCJ1 | 3722-001359 | JACK-SCART;21P,-,SN,BLK,#20-28 | |
| SCL1 | 2701-000181 | INDUCTOR-AXIAL;33uH,5%,2.4x3.4mm | |
| SCL11 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | |
| SCL2 | 2701-000181 | INDUCTOR-AXIAL;33uH,5%,2.4x3.4mm | |
| SCQ15 | 0504-000156 | TR-DIGITAL;DTA124EKA,PNP,200mW,22K-22K | |
| SCQ16 | 0504-000128 | TR-DIGITAL;-,NPN,200MW,22K/22K,SOT-23,TP | |
| SCQ18 | 0504-000128 | TR-DIGITAL;-,NPN,200MW,22K/22K,SOT-23,TP | |
| SCQ3 | 0504-000128 | TR-DIGITAL;-,NPN,200MW,22K/22K,SOT-23,TP | |
| SCQ7 | 0501-000314 | TR-SMALL SIGNAL;KSA812,PNP,150mW,SOT-23, | |
| SCQ8 | 0504-000128 | TR-DIGITAL;-,NPN,200MW,22K/22K,SOT-23,TP | |
| SCR1 | 2001-000734 | R-CARBON;4.7KOHM,5%,1/8W,AA,TP,1.8X3.2M | |
| SCR15 | 2001-000969 | R-CARBON;75OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| SCR19 | 2007-000030 | R-CHIP;560OHM,5%,1/10W,DA,TP,2012 | |
| SCR20 | 2007-000030 | R-CHIP;560OHM,5%,1/10W,DA,TP,2012 | |
| SCR23 | 2007-001201 | R-CHIP;820OHM,5%,1/10W,DA,TP,2012 | |
| SCR24 | 2007-001201 | R-CHIP;820OHM,5%,1/10W,DA,TP,2012 | |
| SCR25 | 2007-001166 | R-CHIP;75OHM,5%,1/10W,DA,TP,2012 | |
| SCR35 | 2007-001166 | R-CHIP;75OHM,5%,1/10W,DA,TP,2012 | |
| SCR36 | 2007-001166 | R-CHIP;75OHM,5%,1/10W,DA,TP,2012 | |
| SCR37 | 2007-001166 | R-CHIP;75OHM,5%,1/10W,DA,TP,2012 | |
| SCR4 | 2007-000981 | R-CHIP;5.6KOHM,5%,1/10W,DA,TP,2012 | |
| SCR46 | 2007-000290 | R-CHIP;100OHM,5%,1/10W,DA,TP,2012 | |
| SCR5 | 2007-000686 | R-CHIP;3.3KOHM,5%,1/10W,DA,TP,2012 | |
| SCR60 | 2007-000029 | R-CHIP;0OHM,5%,1/10W,DA,TP,2012 | |
| SCR61 | 2007-000029 | R-CHIP;0OHM,5%,1/10W,DA,TP,2012 | |
| SCR63 | 2007-000029 | R-CHIP;0OHM,5%,1/10W,DA,TP,2012 | |
| SCR65 | 2007-000029 | R-CHIP;0OHM,5%,1/10W,DA,TP,2012 | |
| SCR76 | 2007-000468 | R-CHIP;1KOHM,5%,1/10W,DA,TP,2012 | |
| SVJ1 | 3722-001375 | JACK-DIN;4P,-,NI,BLK,- | |
| SW1 | 3404-000160 | SWITCH-TACT;12V,50mA,160gf+50gf,6.55x7. | |
| VC1 | 2202-000205 | C-CERAMIC,MLC-AXIAL;22pF,5%,50V,SL,TP,1. | |
| VC10 | 2202-000791 | C-CERAMIC,MLC-AXIAL;150pF,10%,50V,Y5P,TP | |
| VC106 | 2203-000260 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012 | |
| VC11 | 2202-000851 | C-CERAMIC,MLC-AXIAL;270PF,10%,50V,Y5P,TP | |
| VC12 | 2202-000231 | C-CERAMIC,MLC-AXIAL;330pF,10%,50V,Y5P,TP | |
| VC13 | 2202-000791 | C-CERAMIC,MLC-AXIAL;150pF,10%,50V,Y5P,TP | |

| Loc.No | Part No | Description ; Specification | Remark |
|---|---|---|---|
| VC14 | 2202-000205 | C-CERAMIC,MLC-AXIAL;22pF,5%,50V,SL,TP,1. | |
| VC16 | 2202-002037 | C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V | |
| VC17 | 2203-000192 | C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP, | |
| VC18 | 2202-000231 | C-CERAMIC,MLC-AXIAL;330pF,10%,50V,Y5P,TP | |
| VC19 | 2202-000791 | C-CERAMIC,MLC-AXIAL;150pF,10%,50V,Y5P,TP | |
| VC21 | 2202-000205 | C-CERAMIC,MLC-AXIAL;22pF,5%,50V,SL,TP,1. | |
| VC22 | 2202-000851 | C-CERAMIC,MLC-AXIAL;270PF,10%,50V,Y5P,TP | |
| VC3 | 2202-000851 | C-CERAMIC,MLC-AXIAL;270PF,10%,50V,Y5P,TP | |
| VC4 | 2202-000231 | C-CERAMIC,MLC-AXIAL;330pF,10%,50V,Y5P,TP | |
| VC5 | 2202-000791 | C-CERAMIC,MLC-AXIAL;150pF,10%,50V,Y5P,TP | |
| VC6 | 2202-000205 | C-CERAMIC,MLC-AXIAL;22pF,5%,50V,SL,TP,1. | |
| VC8 | 2202-000851 | C-CERAMIC,MLC-AXIAL;270PF,10%,50V,Y5P,TP | |
| VC9 | 2202-000231 | C-CERAMIC,MLC-AXIAL;330pF,10%,50V,Y5P,TP | |
| VE5 | 2401-001353 | C-AL;470uF,20%,10V,GP,TP,8x11.5,5 | |
| VE6 | 2401-000913 | C-AL;22uF,20%,16V,GP,TP,5x11,5 | |
| VE7 | 2401-001353 | C-AL;470uF,20%,10V,GP,TP,8x11.5,5 | |
| VE8 | 2401-000913 | C-AL;22uF,20%,16V,GP,TP,5x11,5 | |
| VE9 | 2401-002042 | C-AL;220uF,20%,10V,GP,TP,6.3x11,5 | |
| VFD1 | AH07-00024A | VF DISPLAY;HNV-11SS19,21SEG,74X9.0mm,DVD | |
| VIC1 | 1201-001419 | IC-VIDEO AMP;7660,SSOP,16P,173MIL,3,6DB, | |
| VL1 | 2701-000238 | INDUCTOR-AXIAL;1.8uH,10%,2.5x3.4mm | |
| VL112 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | |
| VL2 | 2701-000238 | INDUCTOR-AXIAL;1.8uH,10%,2.5x3.4mm | |
| VL3 | 2701-000238 | INDUCTOR-AXIAL;1.8uH,10%,2.5x3.4mm | |
| VL4 | 2701-000238 | INDUCTOR-AXIAL;1.8uH,10%,2.5x3.4mm | |
| VL5 | 2701-000238 | INDUCTOR-AXIAL;1.8uH,10%,2.5x3.4mm | |
| VL6 | 2701-000238 | INDUCTOR-AXIAL;1.8uH,10%,2.5x3.4mm | |
| VL7 | 2701-000238 | INDUCTOR-AXIAL;1.8uH,10%,2.5x3.4mm | |
| VL8 | 2701-000238 | INDUCTOR-AXIAL;1.8uH,10%,2.5x3.4mm | |
| VR10 | 2001-000969 | R-CARBON;75OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| VR10S | 2001-001006 | R-CARBON;82OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| VR11 | 2001-000969 | R-CARBON;75OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| VR12 | 2001-000969 | R-CARBON;75OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| VR121 | 2001-000515 | R-CARBON;220OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| VR122 | 2007-000572 | R-CHIP;220OHM,5%,1/10W,DA,TP,2012 | |
| VR123 | 2001-000290 | R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| VR7 | 2001-001006 | R-CARBON;82OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| VR8 | 2001-001006 | R-CARBON;82OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| VR9 | 2001-001006 | R-CARBON;82OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| VSW1 | AH34-00010A | SWITCH SLIDE;-,50V DC,-,-,100M OHM,-,-,-, | |

| Loc.No | Part No | Description ; Specification | Remark |
|---|---|---|---|
| **602** | **AH92-00338F** | **ASSY PCB-JACK;DVD-511/XEF,JACK PCB** | **DVD-511** |
| AC10 | 2203-000192 | C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP, | |
| AC11 | 2301-000423 | C-FILM,PEF;3.3NF,5%,100V,TP,7X10X4.5MM,5 | |
| AC13 | 2301-000423 | C-FILM,PEF;3.3NF,5%,100V,TP,7X10X4.5MM,5 | |
| AC14 | 2301-000402 | C-FILM,PEF;1nF,5%,50V,TP,5x7x2.8mm,5mm | |
| AC15 | 2301-000402 | C-FILM,PEF;1nF,5%,50V,TP,5x7x2.8mm,5mm | |
| AC201 | 2203-000192 | C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP, | |
| AC202 | 2203-000260 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012 | |
| AC203 | 2203-000260 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012 | |
| AC4 | 2202-002037 | C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V | |
| AC5 | 2202-002037 | C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V | |
| AC6 | 2202-002037 | C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V | |
| AC7 | 2301-000402 | C-FILM,PEF;1nF,5%,50V,TP,5x7x2.8mm,5mm | |
| AC8 | 2301-000402 | C-FILM,PEF;1nF,5%,50V,TP,5x7x2.8mm,5mm | |
| AC9 | 2203-000192 | C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP, | |
| AD51 | 0407-000114 | DIODE-ARRAY;DAN202K,80V,100mA,CA2-3,SOT- | |
| AD54 | 0401-000101 | DIODE-SWITCHING;1N4148,100V,200mA,DO-35, | |
| AD55 | 0401-000101 | DIODE-SWITCHING;1N4148,100V,200mA,DO-35, | |
| AD60 | 0407-000116 | DIODE-ARRAY;DAP202K,80V,100mA,CK2-3,SOT- | |
| AE1 | 2401-002042 | C-AL;220uF,20%,10V,GP,TP,6.3x11,5 | |
| AE17 | 2401-000598 | C-AL;1uF,20%,50V,GP,TP,4x7,5 | |
| AE2 | 2401-002042 | C-AL;220uF,20%,10V,GP,TP,6.3x11,5 | |
| AE21 | 2401-002144 | C-AL;47uF,20%,16V,GP,TP,5x11,5 | |
| AE22 | 2401-002144 | C-AL;47uF,20%,16V,GP,TP,5x11,5 | |
| AE3 | 2401-002042 | C-AL;220uF,20%,10V,GP,TP,6.3x11,5 | |
| AE51 | 2401-001969 | C-AL;470uF,20%,25V,GP,TP,10x12.5,5 | |
| AE52 | 2401-000302 | C-AL;100uF,20%,25V,GP,TP,6.3x11,5 | |
| AE6 | 2401-000414 | C-AL;10uF,20%,16V,GP,TP,4x7,5 | |
| AE9 | 2401-000414 | C-AL;10uF,20%,16V,GP,TP,4x7,5 | |
| AIC1 | 1002-001213 | IC-D/A CONVERTER;AK4393VF,24BIT,SOP,28P, | |
| AIC3 | AH14-10004R | IC;M74HCU04,SOP,TAPE 14P | |
| AL1 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | |
| AL2 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | |
| AL201 | 2901-001125 | FILTER-EMI ON BOARD;50V,0.5A,-,220pF,7x2 | |
| AOP1 | 1201-000163 | IC-OP AMP;4560,SOP,8P,173MIL,DUAL,100V/m | |
| AQ1 | 0501-000341 | TR-SMALL SIGNAL;KSC1623-L,NPN,200mW,SOT- | |
| AQ3 | 0501-000341 | TR-SMALL SIGNAL;KSC1623-L,NPN,200mW,SOT- | |
| AQ51 | 0504-000128 | TR-DIGITAL;-,NPN,200MW,22K/22K,SOT-23,TP | |
| AQ52 | 0504-000156 | TR-DIGITAL;DTA124EKA,PNP,200mW,22K-22K | |
| AQ55 | 0504-000118 | TR-DIGITAL;KSR1003,NPN,300MW,22K/22K,TO- | |
| AQ56 | 0504-000118 | TR-DIGITAL;KSR1003,NPN,300MW,22K/22K,TO- | |
| AQ57 | 0504-001003 | TR-DIGITAL;KSR2003,PNP,300MW,22K/22K,TO- | |
| AR10 | 2007-000267 | R-CHIP;1.8KOHM,5%,1/10W,DA,TP,2012 | |
| AR11 | 2001-000258 | R-CARBON;1.8KOHM,5%,1/8W,AA,TP,1.8X3.2M | |
| AR14 | 2007-000468 | R-CHIP;1KOHM,5%,1/10W,DA,TP,2012 | |
| AR15 | 2007-000468 | R-CHIP;1KOHM,5%,1/10W,DA,TP,2012 | |
| AR16 | 2007-000468 | R-CHIP;1KOHM,5%,1/10W,DA,TP,2012 | |
| AR17 | 2007-000468 | R-CHIP;1KOHM,5%,1/10W,DA,TP,2012 | |
| AR18 | 2007-000221 | R-CHIP;1.2KOHM,5%,1/10W,DA,TP,2012 | |
| AR19 | 2007-000221 | R-CHIP;1.2KOHM,5%,1/10W,DA,TP,2012 | |
| AR2 | 2001-000258 | R-CARBON;1.8KOHM,5%,1/8W,AA,TP,1.8X3.2M | |
| AR201 | 2007-000766 | R-CHIP;330OHM,5%,1/10W,DA,TP,2012 | |
| AR202 | 2007-001247 | R-CHIP;91OHM,5%,1/10W,DA,TP,2012 | |
| AR203 | 2001-000515 | R-CARBON;220OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| AR21 | 2001-000290 | R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| AR22 | 2001-000515 | R-CARBON;220OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| AR24 | 2001-000515 | R-CARBON;220OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| AR26 | 2001-000429 | R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| AR28 | 2007-000468 | R-CHIP;1KOHM,5%,1/10W,DA,TP,2012 | |
| AR29 | 2007-000468 | R-CHIP;1KOHM,5%,1/10W,DA,TP,2012 | |
| AR30 | 2007-000468 | R-CHIP;1KOHM,5%,1/10W,DA,TP,2012 | |
| AR31 | 2007-000468 | R-CHIP;1KOHM,5%,1/10W,DA,TP,2012 | |
| AR32 | 2007-000221 | R-CHIP;1.2KOHM,5%,1/10W,DA,TP,2012 | |
| AR33 | 2007-000221 | R-CHIP;1.2KOHM,5%,1/10W,DA,TP,2012 | |
| AR35 | 2001-000290 | R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| AR36 | 2001-000515 | R-CARBON;220OHM,5%,1/8W,AA,TP,1.8X3.2MM | |

| Loc.No | Part No | Description ; Specification | Remark |
|---|---|---|---|
| AR38 | 2001-000515 | R-CARBON;220OHM ,5% ,1/8W ,AA,TP,1.8X3.2M M | |
| AR40 | 2001-000429 | R-CARBON;1KOHM ,5% ,1/8W ,AA,TP,1.8X3.2M M | |
| AR5 | 2001-000429 | R-CARBON;1KOHM ,5% ,1/8W ,AA,TP,1.8X3.2M M | |
| AR51 | 2001-000429 | R-CARBON;1KOHM ,5% ,1/8W ,AA,TP,1.8X3.2M M | |
| AR54 | 2001-000281 | R-CARBON;100OHM ,5% ,1/8W ,AA,TP,1.8X3.2M M | |
| AR55 | 2001-000241 | R-CARBON;1.5KOHM ,5% ,1/8W ,AA,TP,1.8X3.2M | |
| AR56 | 2001-000281 | R-CARBON;100OHM ,5% ,1/8W ,AA,TP,1.8X3.2M M | |
| AR6 | 2001-000429 | R-CARBON;1KOHM ,5% ,1/8W ,AA,TP,1.8X3.2M M | |
| AR7 | 2001-000429 | R-CARBON;1KOHM ,5% ,1/8W ,AA,TP,1.8X3.2M M | |
| AR8 | 2001-000429 | R-CARBON;1KOHM ,5% ,1/8W ,AA,TP,1.8X3.2M M | |
| AR9 | 2007-000267 | R-CHIP;1.8KOHM ,5% ,1/10W ,DA,TP,2012 | |
| AVJ 2 | 3722-001467 | J ACK-RCA;3P,3.2mm,NI,BLK,- | |
| AVJ 4 | 3722-001053 | J ACK-RCA;1P,3.2mm,NI,BLK,- | |
| AVJ 5 | 3707-001005 | CONNECTOR-OPTICAL;PLUG,SM ,-,4.4/2.0M M | |
| AZD51 | 0403-000551 | DIODE-ZENER;M TZ3.9B,3.9V,3.89-4.16V,500m | |
| CN1 | 3708-001364 | CONNECTOR-FPC/FC/PIC;35P,1.25M M ,STRAIGHT | |
| CN1A | 3809-001180 | CABLE-FLAT;30V,-30to+80C,80mm,35P,1.25mm | |
| CN3 | AH39-00179A | CONNECT WIRE;-,-,-,-,#26,-,-,-,-,-,-,-,-,1 | |
| FC10 | 2202-000797 | C-CERAM IC,M LC-AXIAL;10N F,30% ,16V,Y5S,TP, | |
| FC14 | 2202-000797 | C-CERAM IC,M LC-AXIAL;10N F,30% ,16V,Y5S,TP, | |
| FC15 | 2202-000797 | C-CERAM IC,M LC-AXIAL;10N F,30% ,16V,Y5S,TP, | |
| FC16 | 2203-000444 | C-CERAM IC,CHIP;1nF,10% ,50V,X7R,TP,2012,- | |
| FC2 | 2202-000162 | C-CERAM IC,M LC-AXIAL;.015N F,5% ,50V,SL,TP, | |
| FC3 | 2202-000162 | C-CERAM IC,M LC-AXIAL;.015N F,5% ,50V,SL,TP, | |
| FC4A | 2203-000260 | C-CERAM IC,CHIP;10nF,10% ,50V,X7R,TP,2012 | |
| FC6 | 2202-000797 | C-CERAM IC,M LC-AXIAL;10N F,30% ,16V,Y5S,TP, | |
| FC7 | 2202-002037 | C-CERAM IC,M LC-AXIAL;100nF,80-20% ,50V,Y5V | |
| FD10 | 0401-000101 | DIODE-SW ITCHING;1N4148,100V,200mA,DO-35, | |
| FD6 | 0401-000101 | DIODE-SW ITCHING;1N4148,100V,200mA,DO-35, | |
| FD7 | 0401-000101 | DIODE-SW ITCHING;1N4148,100V,200mA,DO-35, | |
| FD8 | 0401-000101 | DIODE-SW ITCHING;1N4148,100V,200mA,DO-35, | |
| FD9 | 0403-000551 | DIODE-ZENER;M TZ3.9B,3.9V,3.89-4.16V,500m | |
| FE1 | 2401-000922 | C-AL;22uF,20% ,16V,GP,TP,5x5,5 | |
| FE12 | 2401-001475 | C-AL;47uF,20% ,10V,GP,TP,6.3x5,5mm | |
| FE5 | 2401-002144 | C-AL;47uF,20% ,16V,GP,TP,5x11,5 | |
| FE8 | 2401-001507 | C-AL;47uF,20% ,16V,GP,TP,6.3x5,5 | |
| FIC1 | AH09-00034A | IC M ICOM ;LC866232A,SANYO,100PIN ,QFP,QFP | |
| FIC2 | 1203-001252 | IC-VOL. DETECTOR;7545,TO-92,3P,-,PLASTIC | |
| FIC4 | AH59-00010A | M ODULE-REM OCON ;-,-,37.9KHZ,940NM ,-,-,- | |
| FL2 | 2701-000114 | INDUCTOR-AXIAL;10uH,10% ,2.5x3.4mm | |
| FR1 | 2001-000273 | R-CARBON;100KOHM ,5% ,1/8W ,AA,TP,1.8X3.2M | |
| FR10 | 2001-000281 | R-CARBON;100OHM ,5% ,1/8W ,AA,TP,1.8X3.2M M | |
| FR101 | 2001-000273 | R-CARBON;100KOHM ,5% ,1/8W ,AA,TP,1.8X3.2M | |
| FR102 | 2001-000273 | R-CARBON;100KOHM ,5% ,1/8W ,AA,TP,1.8X3.2M | |
| FR103 | 2001-000273 | R-CARBON;100KOHM ,5% ,1/8W ,AA,TP,1.8X3.2M | |
| FR104 | 2001-000273 | R-CARBON;100KOHM ,5% ,1/8W ,AA,TP,1.8X3.2M | |
| FR105 | 2001-000273 | R-CARBON;100KOHM ,5% ,1/8W ,AA,TP,1.8X3.2M | |
| FR106 | 2001-000273 | R-CARBON;100KOHM ,5% ,1/8W ,AA,TP,1.8X3.2M | |
| FR11 | 2001-000281 | R-CARBON;100OHM ,5% ,1/8W ,AA,TP,1.8X3.2M M | |
| FR12 | 2001-000281 | R-CARBON;100OHM ,5% ,1/8W ,AA,TP,1.8X3.2M M | |
| FR13 | 2001-000281 | R-CARBON;100OHM ,5% ,1/8W ,AA,TP,1.8X3.2M M | |
| FR16 | 2001-000027 | R-CARBON;100OHM ,5% ,1/4W ,AA,TP,2.4X6.4M M | |
| FR17 | 2001-000027 | R-CARBON;100OHM ,5% ,1/4W ,AA,TP,2.4X6.4M M | |
| FR18 | 2007-000493 | R-CHIP;2.2KOHM ,5% ,1/10W ,DA,TP,2012 | |
| FR19 | 2001-000449 | R-CARBON;2.2KOHM ,5% ,1/8W ,AA,TP,1.8X3.2M | |
| FR20 | 2001-000449 | R-CARBON;2.2KOHM ,5% ,1/8W ,AA,TP,1.8X3.2M | |
| FR21 | 2001-000435 | R-CARBON;1M OHM ,5% ,1/8W ,AA,TP,1.8X3.2M M | |
| FR24 | 2001-000281 | R-CARBON;100OHM ,5% ,1/8W ,AA,TP,1.8X3.2M M | |
| FR25 | 2007-000029 | R-CHIP;0OHM ,5% ,1/10W ,DA,TP,2012 | |
| FR26 | 2001-000281 | R-CARBON;100OHM ,5% ,1/8W ,AA,TP,1.8X3.2M M | |
| FR2S | 2007-000029 | R-CHIP;0OHM ,5% ,1/10W ,DA,TP,2012 | |
| FR31 | 2001-000273 | R-CARBON;100KOHM ,5% ,1/8W ,AA,TP,1.8X3.2M | |
| FR32 | 2001-000273 | R-CARBON;100KOHM ,5% ,1/8W ,AA,TP,1.8X3.2M | |
| FR33 | 2001-000273 | R-CARBON;100KOHM ,5% ,1/8W ,AA,TP,1.8X3.2M | |
| FR34 | 2001-000273 | R-CARBON;100KOHM ,5% ,1/8W ,AA,TP,1.8X3.2M | |
| FR35 | 2001-000273 | R-CARBON;100KOHM ,5% ,1/8W ,AA,TP,1.8X3.2M | |

| Loc.No | Part No | Description ; Specification | Remark |
|---|---|---|---|
| FR36 | 2001-000273 | R-CARBON;100KOHM ,5% ,1/8W ,AA,TP,1.8X3.2M | |
| FR37 | 2001-000273 | R-CARBON;100KOHM ,5% ,1/8W ,AA,TP,1.8X3.2M | |
| FR43 | 2001-000793 | R-CARBON;47OHM ,5% ,1/8W ,AA,TP,1.8X3.2M M | |
| FR44 | 2001-000429 | R-CARBON;1KOHM ,5% ,1/8W ,AA,TP,1.8X3.2M M | |
| FR45 | 2001-000429 | R-CARBON;1KOHM ,5% ,1/8W ,AA,TP,1.8X3.2M M | |
| FR46 | 2001-000273 | R-CARBON;100KOHM ,5% ,1/8W ,AA,TP,1.8X3.2M | |
| FR4S | 2007-000029 | R-CHIP;0OHM ,5% ,1/10W ,DA,TP,2012 | |
| FR5 | 2001-000325 | R-CARBON;120OHM ,5% ,1/8W ,AA,TP,1.8X3.2M M | |
| FR51 | 2007-000029 | R-CHIP;0OHM ,5% ,1/10W ,DA,TP,2012 | |
| FR52 | 2007-000029 | R-CHIP;0OHM ,5% ,1/10W ,DA,TP,2012 | |
| FR7 | 2007-000282 | R-CHIP;100KOHM ,5% ,1/10W ,DA,TP,2012 | |
| FY1 | 2802-000108 | RESONATOR-CERAM IC;12M HZ,0.5% ,BK,10.0X5.0 | |
| HC3 | 2202-002037 | C-CERAM IC,M LC-AXIAL;100nF,80-20% ,50V,Y5V | |
| HC4 | 2202-002037 | C-CERAM IC,M LC-AXIAL;100nF,80-20% ,50V,Y5V | |
| HE3 | 2401-002075 | C-AL;4.7uF,20% ,50V,GP,TP,5x11,5 | |
| HE4 | 2401-002075 | C-AL;4.7uF,20% ,50V,GP,TP,5x11,5 | |
| HOP2 | 1201-000163 | IC-OP AM P;4560,SOP,8P,173M IL,DUAL,100V/m | |
| HR10 | 2007-000282 | R-CHIP;100KOHM ,5% ,1/10W ,DA,TP,2012 | |
| HR15 | 2001-000515 | R-CARBON;220OHM ,5% ,1/8W ,AA,TP,1.8X3.2M M | |
| HR16 | 2001-000515 | R-CARBON;220OHM ,5% ,1/8W ,AA,TP,1.8X3.2M M | |
| HR9 | 2007-000282 | R-CHIP;100KOHM ,5% ,1/10W ,DA,TP,2012 | |
| J P266 | 2007-000033 | R-CHIP;0OHM ,5% ,1/8W ,DA,TP,3216 | |
| J P281 | 2007-000033 | R-CHIP;0OHM ,5% ,1/8W ,DA,TP,3216 | |
| J P347 | 2008-000141 | R-FUSIBLE;2.2ohm,5% ,1/4W ,AA,TP,2.6x6.7mm | |
| J P383 | 2001-000780 | R-CARBON;470OHM ,5% ,1/8W ,AA,TP,1.8X3.2M M | |
| J P385 | 2007-000033 | R-CHIP;0OHM ,5% ,1/8W ,DA,TP,3216 | |
| J P58 | 2701-000114 | INDUCTOR-AXIAL;10uH,10% ,2.5x3.4mm | |
| J P80 | 2007-000033 | R-CHIP;0OHM ,5% ,1/8W ,DA,TP,3216 | |
| J P81 | 2007-000033 | R-CHIP;0OHM ,5% ,1/8W ,DA,TP,3216 | |
| J P91 | 2008-000141 | R-FUSIBLE;2.2ohm,5% ,1/4W ,AA,TP,2.6x6.7mm | |
| PBD11 | 3301-000297 | CORE-FERRITE BEAD;AA,3.6x1.2x5.7mm,1400, | |
| PBF11 | 3301-000297 | CORE-FERRITE BEAD;AA,3.6x1.2x5.7mm,1400, | |
| PBS01 | 3301-000297 | CORE-FERRITE BEAD;AA,3.6x1.2x5.7mm,1400, | |
| PCD01 | 2201-000916 | C-CERAM IC,DISC;100pF,10% ,400V,Y5U,TP,10x | ⚠ |
| PCD02 | 2201-000812 | C-CERAM IC,DISC;2.2nF,20% ,400V,Y5U,BK,12. | ⚠ |
| PCD03 | 2201-000812 | C-CERAM IC,DISC;2.2nF,20% ,400V,Y5U,BK,12. | ⚠ |
| PCD12 | 2201-000129 | C-CERAM IC,DISC;0.1nF,10% ,1kV,Y5P,TP,7x4, | ⚠ |
| PCF01 | 2305-001021 | C-FILM ,M PEF;100nF,20% ,275V,TP,17.5x7x13. | ⚠ |
| PCF02 | 2305-001021 | C-FILM ,M PEF;100nF,20% ,275V,TP,17.5x7x13. | ⚠ |
| PCF11 | 2305-001029 | C-FILM ,M PEF;10nF,10% ,630V,TP,12x9x12.5,5 | |
| PCF13 | 2201-000376 | C-CERAM IC,DISC;0.22nF,5% ,50V,SL,TP,6.3x3 | |
| PCNS1 | AH39-00177A | CONNECT WIRE;-,-,-,-,#24,-,-,-,-,-,-,-,-,1 | |
| PCNS2 | 3711-000178 | CONNECTOR-HEADER;1W ALL,2P,1R,3.96mm,STRA | |
| PCR01A | 2002-000121 | R-COM POSITION;1M ohm,10% ,1/2W ,AA,TP,3.5x9 | |
| PCS03 | 2201-000916 | C-CERAM IC,DISC;100pF,10% ,400V,Y5U,TP,10x | ⚠ |
| PCS31 | 2301-000381 | C-FILM ,PEF;10nF,5% ,50V,TP,6.5x5.5x3mm,5m | |
| PCS32 | 2203-000192 | C-CERAM IC,CHIP;100nF,+80-20% ,50V,Y5V,TP, | |
| PDD35 | 0402-001195 | DIODE-RECTIFIER;F1T4,400V,1.0A,TS-1,TP | |
| PDF01 | 0402-001196 | DIODE-RECTIFIER;1T5,600V,1A,TS-1,TP | |
| PDF12 | 0402-001195 | DIODE-RECTIFIER;F1T4,400V,1.0A,TS-1,TP | |
| PDF13 | 0402-001195 | DIODE-RECTIFIER;F1T4,400V,1.0A,TS-1,TP | |
| PDL51 | 0401-000101 | DIODE-SW ITCHING;1N4148,100V,200mA,DO-35, | |
| PDL52 | 0401-000101 | DIODE-SW ITCHING;1N4148,100V,200mA,DO-35, | |
| PDL55 | 0401-000101 | DIODE-SW ITCHING;1N4148,100V,200mA,DO-35, | |
| PDS01 | 0402-001196 | DIODE-RECTIFIER;1T5,600V,1A,TS-1,TP | |
| PDS02 | 0402-001196 | DIODE-RECTIFIER;1T5,600V,1A,TS-1,TP | |
| PDS03 | 0402-001196 | DIODE-RECTIFIER;1T5,600V,1A,TS-1,TP | |
| PDS04 | 0402-001196 | DIODE-RECTIFIER;1T5,600V,1A,TS-1,TP | |
| PDS11 | 0402-000276 | DIODE-RECTIFIER;UF4007,1KV,1A,DO-41,TP | |
| PDS31 | 0402-001195 | DIODE-RECTIFIER;F1T4,400V,1.0A,TS-1,TP | |
| PDS32 | 0402-001194 | DIODE-RECTIFIER;UG2D,200V,2A,DO-204AC,TP | |
| PDS33 | 0404-001097 | DIODE-SCHOTTKY;SG45,45V,7500mA,TO-220A,B | |
| PDS34 | 0404-001097 | DIODE-SCHOTTKY;SG45,45V,7500mA,TO-220A,B | |
| PDS36 | 0402-001195 | DIODE-RECTIFIER;F1T4,400V,1.0A,TS-1,TP | |
| PDS51 | 0401-000101 | DIODE-SW ITCHING;1N4148,100V,200mA,DO-35, | |
| PDS52 | 0402-000132 | DIODE-RECTIFIER;1N4004,400V,1A,DO-41,TP | |

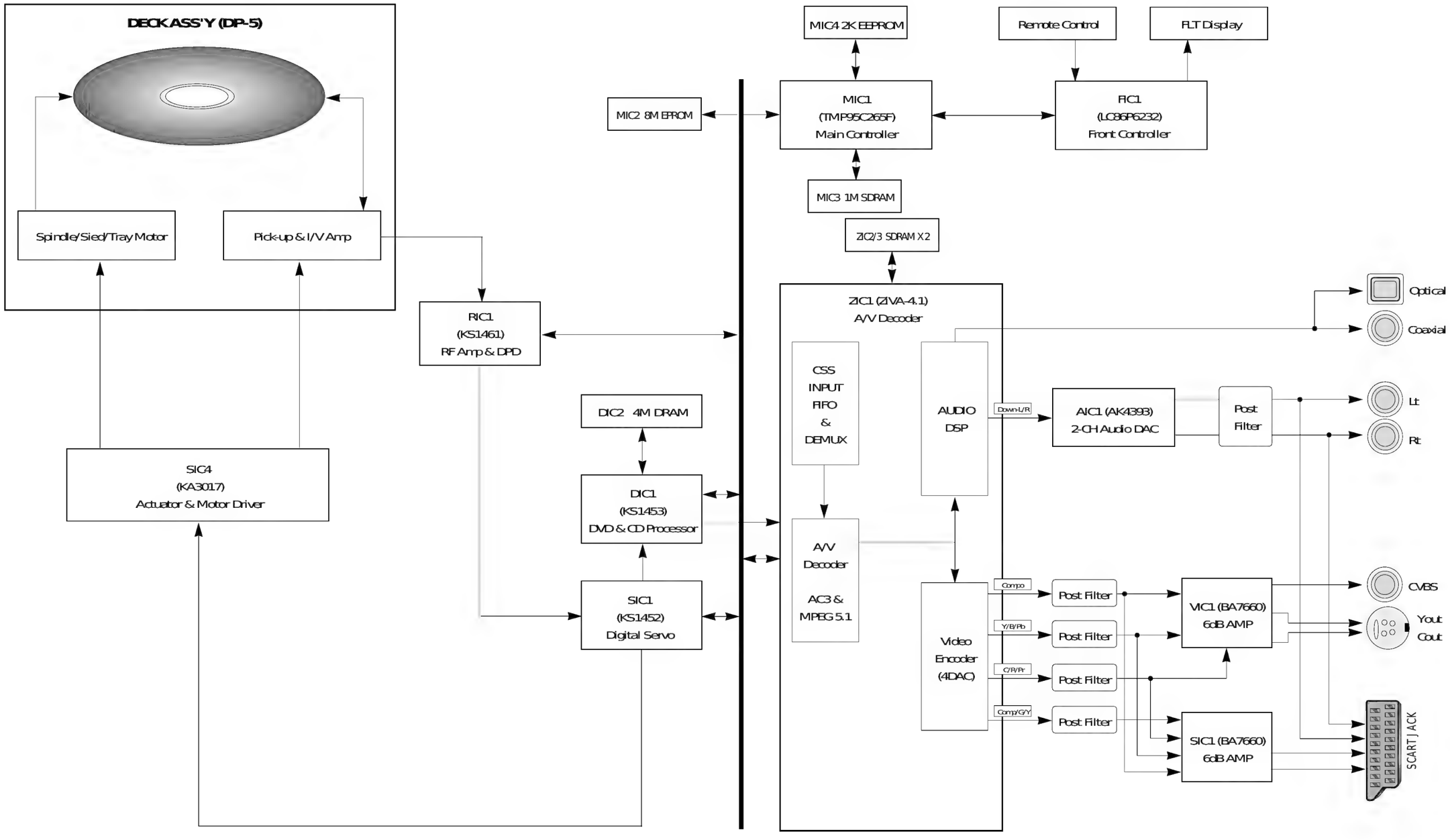
| Loc.No | Part No | Description ; Specification | Remark |
|---|---|---|---|
| PEF10 | 2401-001682 | C-AL;82uF,20%,400V,GP,BK,22x25,10 | ⚠ |
| PEF12 | 2401-002608 | C-AL;33uF,20%,35V,GP,TP,5x11,5 | |
| PES31 | 2401-000302 | C-AL;100uF,20%,25V,GP,TP,6.3x11,5 | |
| PES32 | 2401-000302 | C-AL;100uF,20%,25V,GP,TP,6.3x11,5 | |
| PES33 | 2401-000118 | C-AL;1000uF,20%,10V,GP,TP,10x12.5,5 | |
| PES34 | 2401-000118 | C-AL;1000uF,20%,10V,GP,TP,10x12.5,5 | |
| PES35 | 2401-003046 | C-AL;47uF,20%,50V,WT,TP,6.3x11,2.5 | |
| PES36 | 2401-001353 | C-AL;470uF,20%,10V,GP,TP,8x11.5,5 | |
| PES37 | 2401-002042 | C-AL;220uF,20%,10V,GP,TP,6.3x11,5 | |
| PES51 | 2401-002144 | C-AL;47uF,20%,16V,GP,TP,5x11,5 | |
| PES52 | 2401-000598 | C-AL;1uF,20%,50V,GP,TP,4x7,5 | |
| PES53 | 2401-000302 | C-AL;100uF,20%,25V,GP,TP,6.3x11,5 | |
| PES54 | 2401-002144 | C-AL;47uF,20%,16V,GP,TP,5x11,5 | |
| PES56 | 2401-000302 | C-AL;100uF,20%,25V,GP,TP,6.3x11,5 | |
| PES57 | 2401-000302 | C-AL;100uF,20%,25V,GP,TP,6.3x11,5 | |
| PES58 | 2401-001353 | C-AL;470uF,20%,10V,GP,TP,8x11.5,5 | |
| PFD01 | 3601-001123 | FUSE-CARTRIDGE;250V,1.6A,TIME-LAG,CERAMI | ⚠ |
| PICF1 | 1203-001802 | IC-PWM CONTROLLER;STR-G6551,TO-220F,5P,- | ⚠ |
| PICS1 | 0604-000186 | PHOTO-COUPLER;TR,-,200mW,DIP-4,ST | ⚠ |
| PICS2 | AC14-12006D | IC;KA431Z,TO-92,TAPING | |
| PICS3 | 1203-000122 | IC-NEGA.FIXED REG.;7908,TO-220,3P,-,PLAS | |
| PICS4 | 1203-001697 | IC-VOLTAGE REGULATOR;78R08,TO-220,4P,-,P | |
| PICS5 | 1203-001083 | IC-VOLTAGE REGULATOR;3RF23,TO-202,4P,12. | |
| PLF01 | AC29-30050A | FILTER-LINE NOISE;-,400UH,-,250V,- | ⚠ |
| PLS01 | AC29-30050C | FILTER-LINE NOISE;-,25MH,0.35A,AC250V,BS | ⚠ |
| PLS31 | AC27-12001N | COIL-CHOKE;10UH-15%,RA,K-30,Q80,150KHZ,- | |
| POWER | 0601-001447 | LED;ROUND,RED,3.1mm,650nm | |
| PQL51 | 0504-000152 | TR-DIGITAL;KSR2101,PNP,200MW,4.7K/4.7K,S | |
| PQL52 | 0501-000442 | TR-SMALL SIGNAL;KTC3203-Y,NPN,400MW,T0-9 | |
| PQL53 | 0504-000152 | TR-DIGITAL;KSR2101,PNP,200MW,4.7K/4.7K,S | |
| PQL54 | 0501-000442 | TR-SMALL SIGNAL;KTC3203-Y,NPN,400MW,T0-9 | |
| PQL55 | 0501-000442 | TR-SMALL SIGNAL;KTC3203-Y,NPN,400MW,T0-9 | |
| PQL56 | 0504-000152 | TR-DIGITAL;KSR2101,PNP,200MW,4.7K/4.7K,S | |
| PQL57 | 0504-000126 | TR-DIGITAL;KSR1101,NPN,200MW,4.7K/4.7K,S | |
| PQL58 | 0501-000303 | TR-SMALL SIGNAL;KSA733,PNP,250mW,TO-92,T | |
| PQS55 | 0504-000152 | TR-DIGITAL;KSR2101,PNP,200MW,4.7K/4.7K,S | |
| PQS56 | 0504-000128 | TR-DIGITAL;-,NPN,200MW,22K/22K,SOT-23,TP | |
| PQS57 | 0501-000616 | TR-SMALL SIGNAL;KSC2328A-Y,NPN,1W,TO-92L | |
| PQS58 | 0501-000616 | TR-SMALL SIGNAL;KSC2328A-Y,NPN,1W,TO-92L | |
| PRD12 | 2003-000148 | R-METAL OXIDE;100OHM,5%,2W,AE,TP,6X16MM | |
| PRD31 | 2007-000468 | R-CHIP;1KOHM,5%,1/10W,DA,TP,2012 | |
| PRD32 | 2007-000931 | R-CHIP;470OHM,5%,1/10W,DA,TP,2012 | |
| PRF10 | 2006-000262 | R-CEMENT;2.7ohm,10%,2W,CB,TP,7.5x11x20. | |
| PRF11 | 2001-000076 | R-CARBON;47KOHM,5%,1/4W,AA,TP,2.4X6.4MM | |
| PRF12 | 2001-000076 | R-CARBON;47KOHM,5%,1/4W,AA,TP,2.4X6.4MM | |
| PRF13 | 2001-000076 | R-CARBON;47KOHM,5%,1/4W,AA,TP,2.4X6.4MM | |
| PRF14 | 2001-000076 | R-CARBON;47KOHM,5%,1/4W,AA,TP,2.4X6.4MM | |
| PRF15 | 2001-000096 | R-CARBON(S);1MOHM,5%,1/2W,AA,TP,2.4X6.4M | |
| PRF16 | 2001-000938 | R-CARBON;68OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| PRF17 | 2001-000591 | R-CARBON;3.3KOHM,5%,1/8W,AA,TP,1.8X3.2M | |
| PRF19 | 2001-000429 | R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| PRF20 | 2003-000105 | R-METAL OXIDE;0.33ohm,5%,2W,AD,TP,6x16mm | |
| PRL51 | 2001-000449 | R-CARBON;2.2KOHM,5%,1/8W,AA,TP,1.8X3.2M | |
| PRL52 | 2001-000290 | R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| PRL53 | 2001-000449 | R-CARBON;2.2KOHM,5%,1/8W,AA,TP,1.8X3.2M | |
| PRL54 | 2001-000290 | R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| PRL55 | 2001-000290 | R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| PRL56 | 2001-000449 | R-CARBON;2.2KOHM,5%,1/8W,AA,TP,1.8X3.2M | |
| PRL57 | 2001-000273 | R-CARBON;100KOHM,5%,1/8W,AA,TP,1.8X3.2M | |
| PRL58 | 2001-000449 | R-CARBON;2.2KOHM,5%,1/8W,AA,TP,1.8X3.2M | |
| PRS11 | 2003-000994 | R-METAL OXIDE(S);33Kohm,5%,2W,AF,TP,3.9x | |
| PRS12 | 2003-000994 | R-METAL OXIDE(S);33Kohm,5%,2W,AF,TP,3.9x | |
| PRS31 | 2001-000440 | R-CARBON;1OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| PRS32 | 2007-000468 | R-CHIP;1KOHM,5%,1/10W,DA,TP,2012 | |
| PRS33 | 2004-000869 | R-METAL;3Kohm,1%,1/8W,AA,TP,1.8x3.2mm | |
| PRS34 | 2004-000459 | R-METAL;2.2Kohm,1%,1/8W,AA,TP,1.8x3.2m | |

| Loc.No | Part No | Description ; Specification | Remark |
|---|---|---|---|
| PRS54 | 2001-000449 | R-CARBON;2.2KOHM,5%,1/8W,AA,TP,1.8X3.2M | |
| PRS55 | 2001-000062 | R-CARBON;470OHM,5%,1/4W,AA,TP,2.4X6.4MM | |
| PRS56 | 2001-000429 | R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| PTD1 | AC26-00001M | TRANS-SWITCHING;-,-,-,100V-240V,DEMCO,EE | ⚠ |
| PVA1 | 1405-000186 | VARISTOR;470V,4500A,17x12mm,TP | ⚠ |
| PZS51 | 0403-000717 | DIODE-ZENER;MTZJ 5.1B,5.1V,4.94-5.2V,500m | |
| SCC100 | 2203-000444 | C-CERAMIC,CHIP;1nF,10%,50V,X7R,TP,2012,- | |
| SCC11 | 2203-000192 | C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP, | |
| SCC12 | 2203-000192 | C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP, | |
| SCC14 | 2203-000192 | C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP, | |
| SCC3 | 2203-000239 | C-CERAMIC,CHIP;0.1nF,5%,50V,NP0,TP,2012 | |
| SCC4 | 2203-000239 | C-CERAMIC,CHIP;0.1nF,5%,50V,NP0,TP,2012 | |
| SCC7 | 2203-000239 | C-CERAMIC,CHIP;0.1nF,5%,50V,NP0,TP,2012 | |
| SCC8 | 2203-000239 | C-CERAMIC,CHIP;0.1nF,5%,50V,NP0,TP,2012 | |
| SCD1 | 0407-000114 | DIODE-ARRAY;DAN202K,80V,100mA,CA2-3,SOT- | |
| SCD3 | 0407-000114 | DIODE-ARRAY;DAN202K,80V,100mA,CA2-3,SOT- | |
| SCD4 | 0403-000297 | DIODE-ZENER;MTZ6.2B,6.2V,5.96-6.27V,500m | |
| SCE10 | 2401-001479 | C-AL;470uF,20%,10V,GP,TP,-,- | |
| SCE11 | 2401-000913 | C-AL;22uF,20%,16V,GP,TP,5x11,5 | |
| SCE12 | 2401-001479 | C-AL;470uF,20%,10V,GP,TP,-,- | |
| SCE13 | 2401-000913 | C-AL;22uF,20%,16V,GP,TP,5x11,5 | |
| SCE14 | 2401-001479 | C-AL;470uF,20%,10V,GP,TP,-,- | |
| SCE15 | 2401-000913 | C-AL;22uF,20%,16V,GP,TP,5x11,5 | |
| SCE16 | 2401-002042 | C-AL;220uF,20%,10V,GP,TP,6.3x11,5 | |
| SCE17 | 2401-001353 | C-AL;470uF,20%,10V,GP,TP,8x11.5,5 | |
| SCE4 | 2401-002075 | C-AL;4.7uF,20%,50V,GP,TP,5x11,5 | |
| SCE5 | 2401-000913 | C-AL;22uF,20%,16V,GP,TP,5x11,5 | |
| SCE6 | 2401-000369 | C-AL;100uF,20%,6.3V,GP,-,6.3x11,5 | |
| SCIC3 | AH14-10004T | IC-ANALOG M/PLEXER;MC14053BD,SOP,TAPE 16 | |
| SCIC4 | 1201-001063 | IC-OP AMP;2267,SOP,8P,300MIL,DUAL,6.7dB, | |
| SCIC6 | 1201-001419 | IC-VIDEO AMP;7660,SSOP,16P,173MIL,3,6DB, | |
| SCJ1 | 3722-001359 | JACK-SCART;21P,-,SN,BLK,#20-28 | |
| SCL1 | 2701-000181 | INDUCTOR-AXIAL;33uH,5%,2.4x3.4mm | |
| SCL11 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | |
| SCL2 | 2701-000181 | INDUCTOR-AXIAL;33uH,5%,2.4x3.4mm | |
| SCQ15 | 0504-000156 | TR-DIGITAL;DTA124EKA,PNP,200mW,22K-22K | |
| SCQ16 | 0504-000128 | TR-DIGITAL;-,NPN,200MW,22K/22K,SOT-23,TP | |
| SCQ18 | 0504-000128 | TR-DIGITAL;-,NPN,200MW,22K/22K,SOT-23,TP | |
| SCQ3 | 0504-000128 | TR-DIGITAL;-,NPN,200MW,22K/22K,SOT-23,TP | |
| SCQ7 | 0501-000314 | TR-SMALL SIGNAL;KSA812,PNP,150mW,SOT-23, | |
| SCQ8 | 0504-000128 | TR-DIGITAL;-,NPN,200MW,22K/22K,SOT-23,TP | |
| SCR1 | 2001-000734 | R-CARBON;4.7KOHM,5%,1/8W,AA,TP,1.8X3.2M | |
| SCR15 | 2001-000969 | R-CARBON;75OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| SCR19 | 2007-000030 | R-CHIP;560OHM,5%,1/10W,DA,TP,2012 | |
| SCR20 | 2007-000030 | R-CHIP;560OHM,5%,1/10W,DA,TP,2012 | |
| SCR23 | 2007-001201 | R-CHIP;820OHM,5%,1/10W,DA,TP,2012 | |
| SCR24 | 2007-001201 | R-CHIP;820OHM,5%,1/10W,DA,TP,2012 | |
| SCR25 | 2007-001166 | R-CHIP;75OHM,5%,1/10W,DA,TP,2012 | |
| SCR35 | 2007-001166 | R-CHIP;75OHM,5%,1/10W,DA,TP,2012 | |
| SCR36 | 2007-001166 | R-CHIP;75OHM,5%,1/10W,DA,TP,2012 | |
| SCR37 | 2007-001166 | R-CHIP;75OHM,5%,1/10W,DA,TP,2012 | |
| SCR4 | 2007-000981 | R-CHIP;5.6KOHM,5%,1/10W,DA,TP,2012 | |
| SCR46 | 2007-000290 | R-CHIP;100OHM,5%,1/10W,DA,TP,2012 | |
| SCR5 | 2007-000686 | R-CHIP;3.3KOHM,5%,1/10W,DA,TP,2012 | |
| SCR60 | 2007-000029 | R-CHIP;0OHM,5%,1/10W,DA,TP,2012 | |
| SCR61 | 2007-000029 | R-CHIP;0OHM,5%,1/10W,DA,TP,2012 | |
| SCR63 | 2007-000029 | R-CHIP;0OHM,5%,1/10W,DA,TP,2012 | |
| SCR65 | 2007-000029 | R-CHIP;0OHM,5%,1/10W,DA,TP,2012 | |
| SCR76 | 2007-000468 | R-CHIP;1KOHM,5%,1/10W,DA,TP,2012 | |
| SVJ1 | 3722-001375 | JACK-DIN;4P,-,NI,BLK,- | |
| SW1 | 3404-000160 | SWITCH-TACT;12V,50mA,160gf+50gf,6.55x7. | |
| VC1 | 2202-000205 | C-CERAMIC,MLC-AXIAL;22pF,5%,50V,SL,TP,1. | |
| VC10 | 2202-000791 | C-CERAMIC,MLC-AXIAL;150pF,10%,50V,Y5P,TP | |
| VC106 | 2203-000260 | C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012 | |
| VC11 | 2202-000851 | C-CERAMIC,MLC-AXIAL;270PF,10%,50V,Y5P,TP | |
| VC12 | 2202-000231 | C-CERAMIC,MLC-AXIAL;330pF,10%,50V,Y5P,TP | |

| Loc.No | Part No | Description ; Specification | Remark |
|---|---|---|---|
| VC13 | 2202-000791 | C-CERAMIC,MLC-AXIAL;150pF,10%,50V,Y5P,TP | |
| VC14 | 2202-000205 | C-CERAMIC,MLC-AXIAL;22pF,5%,50V,SL,TP,1. | |
| VC16 | 2202-002037 | C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V | |
| VC17 | 2203-000192 | C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP, | |
| VC18 | 2202-000231 | C-CERAMIC,MLC-AXIAL;330pF,10%,50V,Y5P,TP | |
| VC19 | 2202-000791 | C-CERAMIC,MLC-AXIAL;150pF,10%,50V,Y5P,TP | |
| VC21 | 2202-000205 | C-CERAMIC,MLC-AXIAL;22pF,5%,50V,SL,TP,1. | |
| VC22 | 2202-000851 | C-CERAMIC,MLC-AXIAL;270PF,10%,50V,Y5P,TP | |
| VC3 | 2202-000851 | C-CERAMIC,MLC-AXIAL;270PF,10%,50V,Y5P,TP | |
| VC4 | 2202-000231 | C-CERAMIC,MLC-AXIAL;330pF,10%,50V,Y5P,TP | |
| VC5 | 2202-000791 | C-CERAMIC,MLC-AXIAL;150pF,10%,50V,Y5P,TP | |
| VC6 | 2202-000205 | C-CERAMIC,MLC-AXIAL;22pF,5%,50V,SL,TP,1. | |
| VC8 | 2202-000851 | C-CERAMIC,MLC-AXIAL;270PF,10%,50V,Y5P,TP | |
| VC9 | 2202-000231 | C-CERAMIC,MLC-AXIAL;330pF,10%,50V,Y5P,TP | |
| VE5 | 2401-001353 | C-AL;470uF,20%,10V,GP,TP,8x11.5,5 | |
| VE6 | 2401-000913 | C-AL;22uF,20%,16V,GP,TP,5x11,5 | |
| VE7 | 2401-001353 | C-AL;470uF,20%,10V,GP,TP,8x11.5,5 | |
| VE8 | 2401-000913 | C-AL;22uF,20%,16V,GP,TP,5x11,5 | |
| VE9 | 2401-002042 | C-AL;220uF,20%,10V,GP,TP,6.3x11,5 | |
| VFD1 | AH07-00024A | VF DISPLAY;HNV-11SS19,21SEG,74X9.0mm,DVD | |
| VIC1 | 1201-001419 | IC-VIDEO AMP;7660,SSOP,16P,173MIL,3,6DB, | |
| VL1 | 2701-000238 | INDUCTOR-AXIAL;1.8uH,10%,2.5x3.4mm | |
| VL112 | 3301-000353 | CORE-FERRITE BEAD;AB,2.0x1.25x0.9mm,-,- | |
| VL2 | 2701-000238 | INDUCTOR-AXIAL;1.8uH,10%,2.5x3.4mm | |
| VL3 | 2701-000238 | INDUCTOR-AXIAL;1.8uH,10%,2.5x3.4mm | |
| VL4 | 2701-000238 | INDUCTOR-AXIAL;1.8uH,10%,2.5x3.4mm | |
| VL5 | 2701-000238 | INDUCTOR-AXIAL;1.8uH,10%,2.5x3.4mm | |
| VL6 | 2701-000238 | INDUCTOR-AXIAL;1.8uH,10%,2.5x3.4mm | |
| VL7 | 2701-000238 | INDUCTOR-AXIAL;1.8uH,10%,2.5x3.4mm | |
| VL8 | 2701-000238 | INDUCTOR-AXIAL;1.8uH,10%,2.5x3.4mm | |
| VR10 | 2001-000969 | R-CARBON;75OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| VR10S | 2001-001006 | R-CARBON;82OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| VR11 | 2001-000969 | R-CARBON;75OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| VR12 | 2001-000969 | R-CARBON;75OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| VR121 | 2001-000515 | R-CARBON;220OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| VR122 | 2007-000572 | R-CHIP;220OHM,5%,1/10W,DA,TP,2012 | |
| VR123 | 2001-000290 | R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| VR7 | 2001-001006 | R-CARBON;82OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| VR8 | 2001-001006 | R-CARBON;82OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| VR9 | 2001-001006 | R-CARBON;82OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| VSW1 | AH34-00010A | SWITCH SLIDE;-,50V DC,-,-,100M OHM,-,-,-, | |

| Loc.No | Part No | Description ; Specification | Remark |
|---|---|---|---|
| **701** | **AH92-00583A** | **ASSY PCB-KEY;DVD-611/XAA,KEY PCB** | **DVD-611/611B/615** |
| CON21 | AH39-00180A | CONNECT WIRE;-,-,-,-,#26,-,-,-,-,-,-,-,1 | |
| FSW1 | 3404-000165 | SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST | |
| FSW2 | 3404-000165 | SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST | |
| FSW4 | 3404-000165 | SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST | |
| FSW5 | 3404-000165 | SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST | |
| FSW6 | 3404-000165 | SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST | |
| **701** | **AH92-00582A** | **ASSY PCB-KEY;DVD-511/XAA,KEY PCB** | **DVD-511** |
| CON21 | AH39-00180A | CONNECT WIRE;-,-,-,-,#26,-,-,-,-,-,-,-,1 | |
| FSW1 | 3404-000165 | SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST | |
| FSW2 | 3404-000165 | SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST | |
| FSW4 | 3404-000165 | SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST | |
| FSW5 | 3404-000165 | SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST | |
| FSW6 | 3404-000165 | SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST | |
| **H240** | **AH92-00609A** | **ASSY PCB-DECK;VALINO DECK 2L** | **DVD-611/611B/615** |
| CN1 | 3708-001084 | CONNECTOR-FPC/FC/PIC;40P,1.25mm,ANGLE,SN | |
| CN2 | 3708-001493 | CONNECTOR-FPC/FC/PIC;24P,1mm,SMD-A,SN | |
| CN3 | 3708-001492 | CONNECTOR-FPC/FC/PIC;11P,1mm,ANGLE,SN | |
| DC1 | 2202-000797 | C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5S,TP, | |
| DC2 | 2202-000797 | C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5S,TP, | |
| DC3 | 2202-000797 | C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5S,TP, | |
| DC4 | 2202-000797 | C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5S,TP, | |
| DC5 | 2202-000797 | C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5S,TP, | |
| DD1 | 0401-000101 | DIODE-SWITCHING;1N4148,100V,200mA,DO-35, | |
| DD2 | 0401-000101 | DIODE-SWITCHING;1N4148,100V,200mA,DO-35, | |
| DR1 | 2001-000290 | R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| DR2 | 2001-000290 | R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| DR3 | 2001-000515 | R-CARBON;220OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| DR4 | 2001-000405 | R-CARBON;180OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| DR5 | 2001-000405 | R-CARBON;180OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| DR6 | 2001-000290 | R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| DR7 | 2001-000515 | R-CARBON;220OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| SW1 | 3409-001045 | SWITCH-DETECTOR;30V,0.1A,1,36gf,- | |
| SW2 | 3409-001045 | SWITCH-DETECTOR;30V,0.1A,1,36gf,- | |
| SW2 | 3409-000176 | SWITCH-DETECTOR;30Vdc,100mA,SPST,-,- | |
| SW3 | 3408-000227 | SWITCH-SLIDE;30V,300mA,DPDT,- | |
| **H240** | **AH92-00608A** | **ASSY PCB-DECK;DVD-611/XAA,VALINO DECK 1L** | **DVD-511** |
| CN1 | 3708-001084 | CONNECTOR-FPC/FC/PIC;40P,1.25mm,ANGLE,SN | |
| CN2 | 3708-001494 | CONNECTOR-FPC/FC/PIC;20P,1mm,SMD-A,SN | |
| CN3 | 3708-001492 | CONNECTOR-FPC/FC/PIC;11P,1mm,ANGLE,SN | |
| DC1 | 2202-000797 | C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5S,TP, | |
| DC2 | 2202-000797 | C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5S,TP, | |
| DC4 | 2202-000797 | C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5S,TP, | |
| DC5 | 2202-000797 | C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5S,TP, | |
| DD2 | 0401-000101 | DIODE-SWITCHING;1N4148,100V,200mA,DO-35, | |
| DR1 | 2001-000290 | R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| DR4 | 2001-000405 | R-CARBON;180OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| DR5 | 2001-000405 | R-CARBON;180OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| DR6 | 2001-000290 | R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| DR7 | 2001-000924 | R-CARBON;680OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| SW1 | 3409-001045 | SWITCH-DETECTOR;30V,0.1A,1,36gf,- | |
| SW2 | 3409-000176 | SWITCH-DETECTOR;30Vdc,100mA,SPST,-,- | |
| SW3 | 3408-000227 | SWITCH-SLIDE;30V,300mA,DPDT,- | |

## 9. Block Diagram



# MEMO

# 10. PCB Diagrams


10-1 Main ---------- 10-2

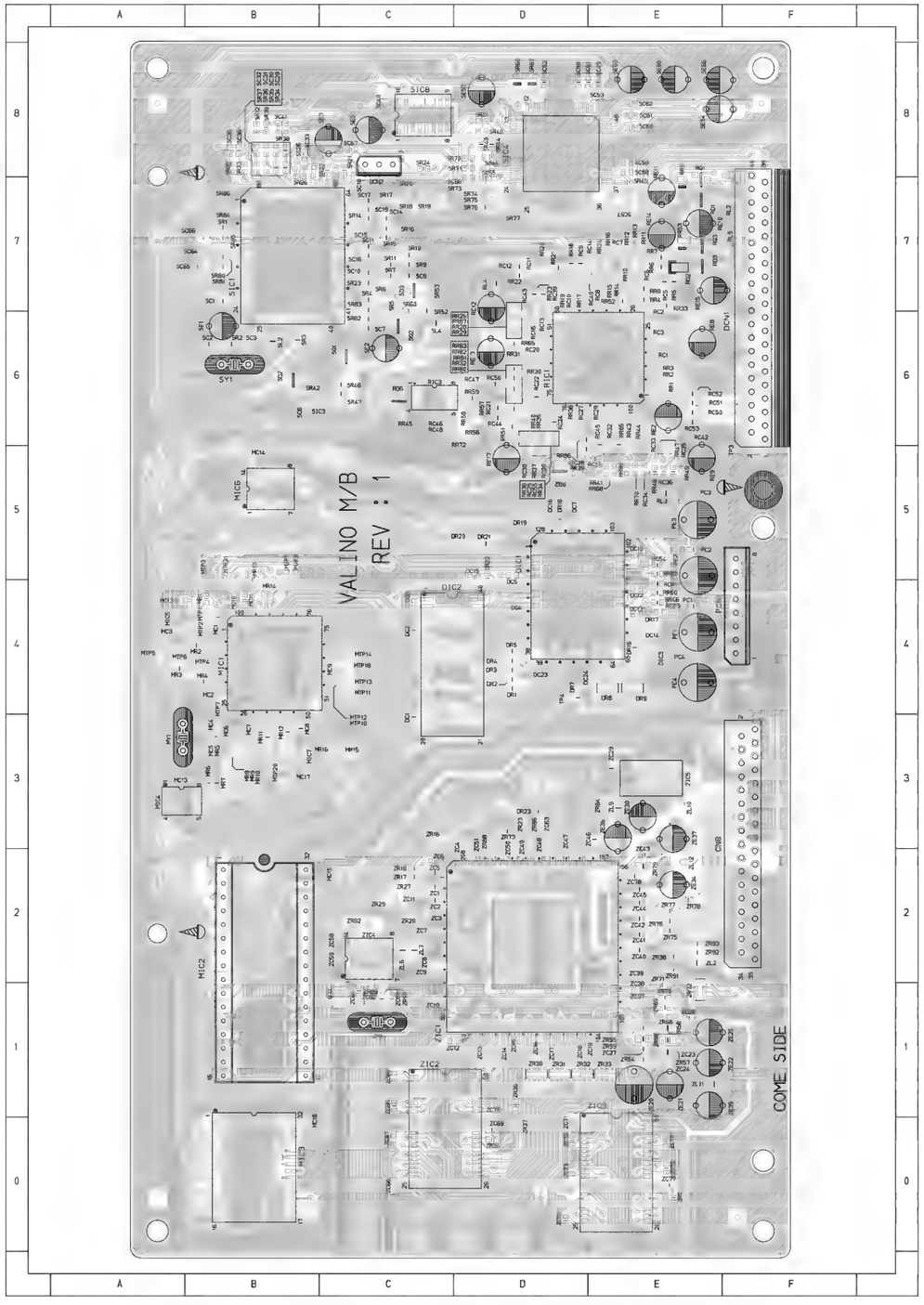
10-2 Jack ---------- 10-3

10-3 Key ---------- 10-4

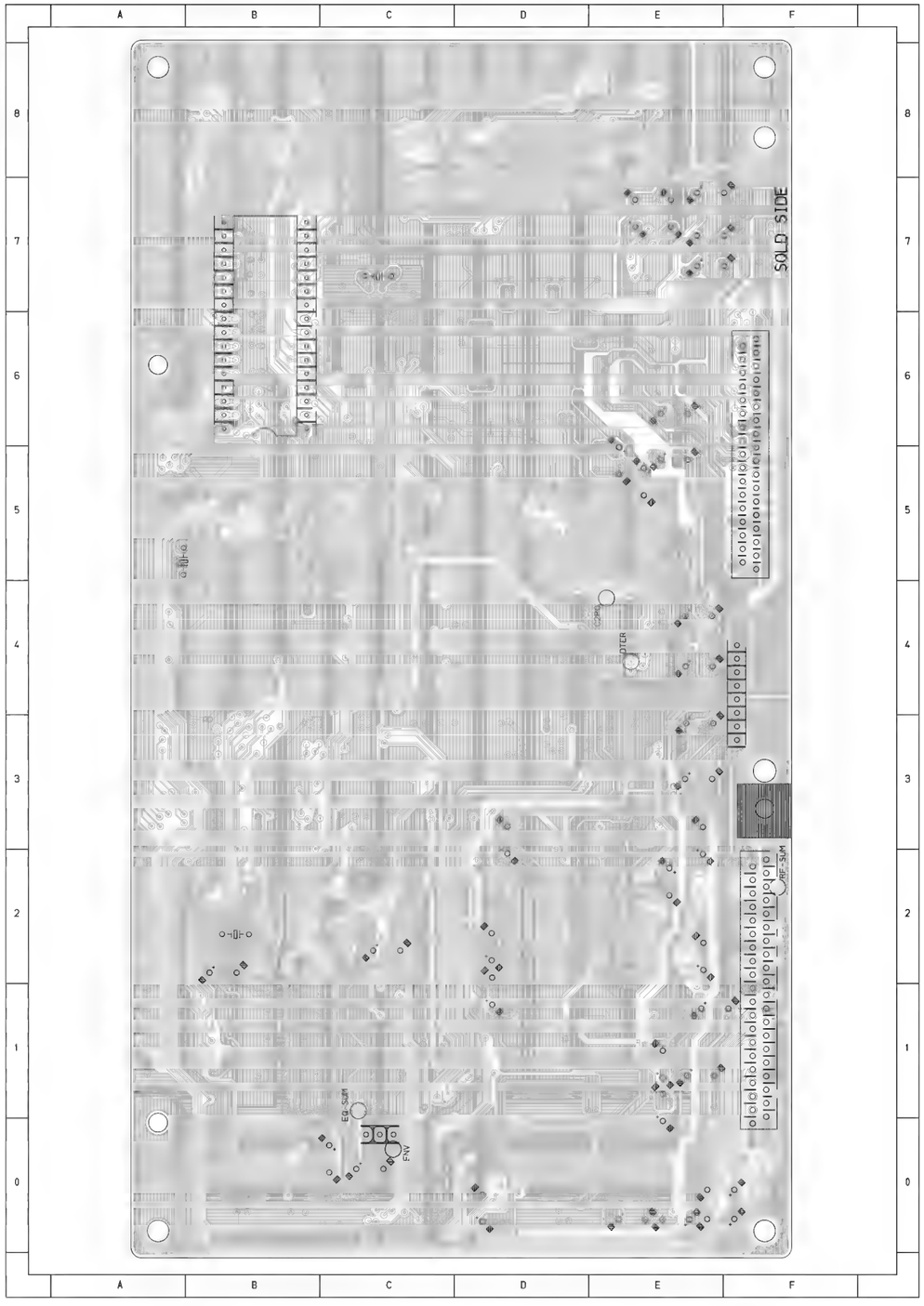
10-4 Deck ---------- 10-4

# 10-1 Main

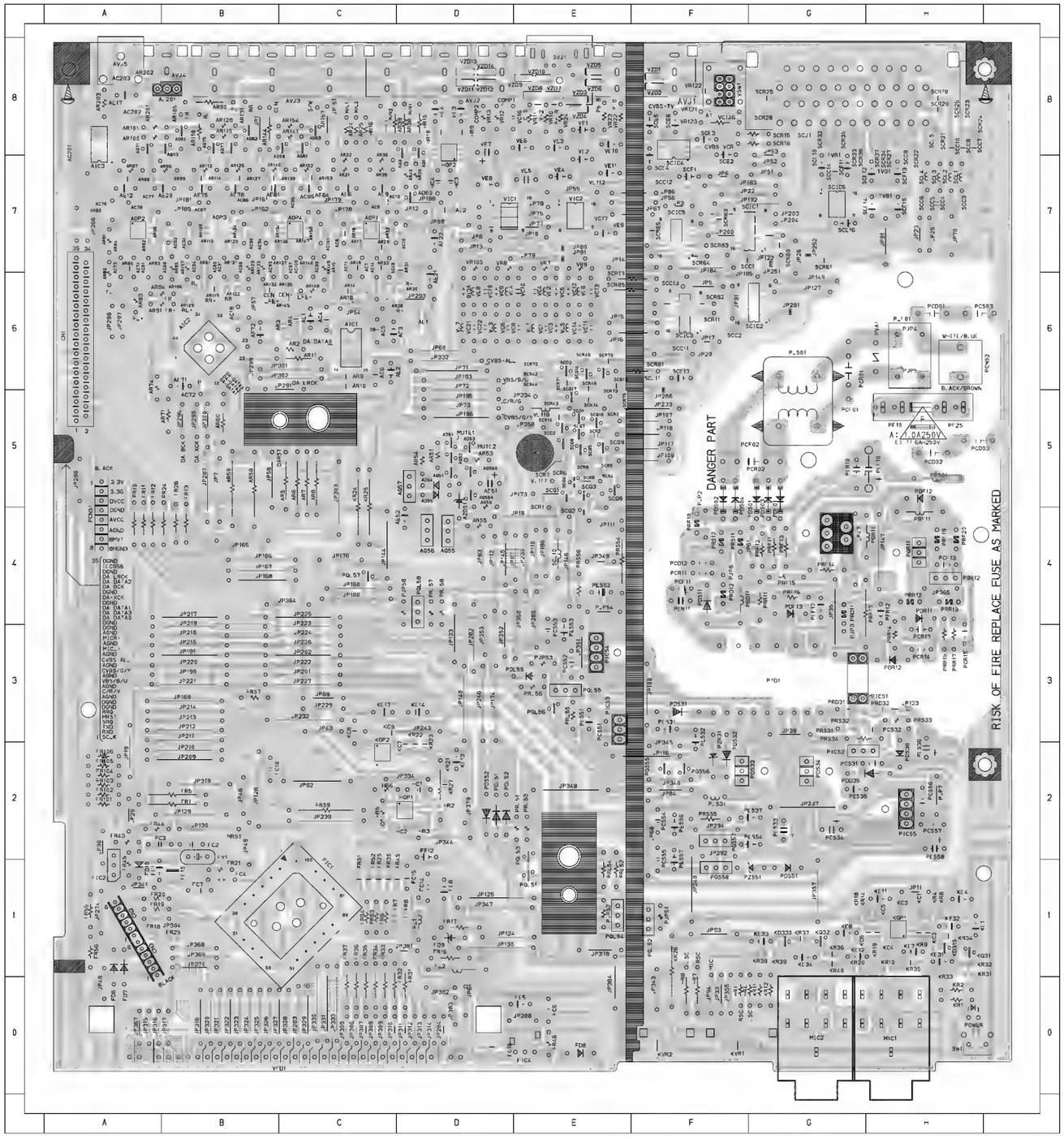
COMPONENT SIDE




SOLDER SIDE

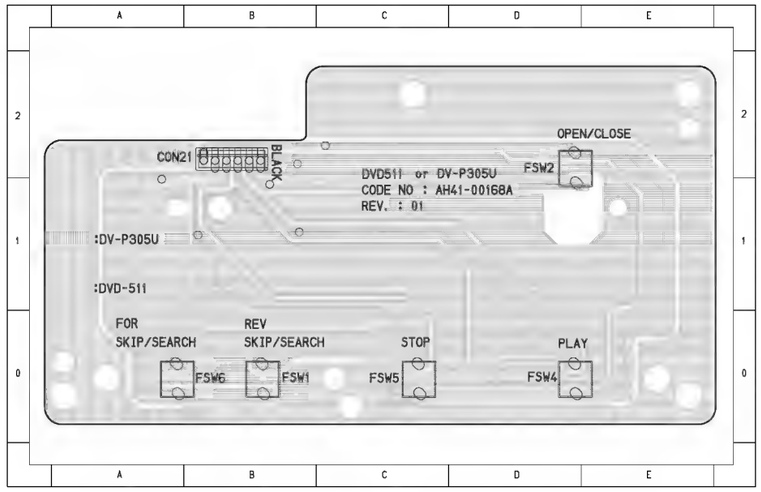


## 10-2 Jack

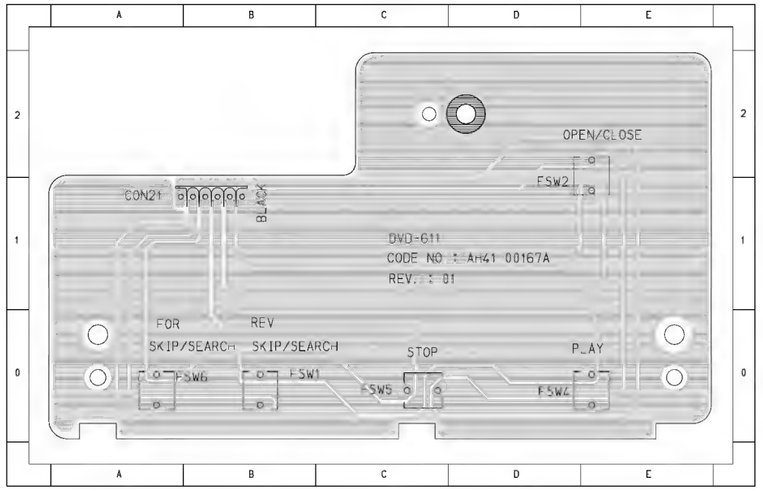

DANGER PART
RISK OF FIRE REPLACE FUSE AS MARKED
A: 4.0A/250V
B. ACK/BROWN
WHITE/B. UE
POWER

## 10-3 Key

**DVD-511**

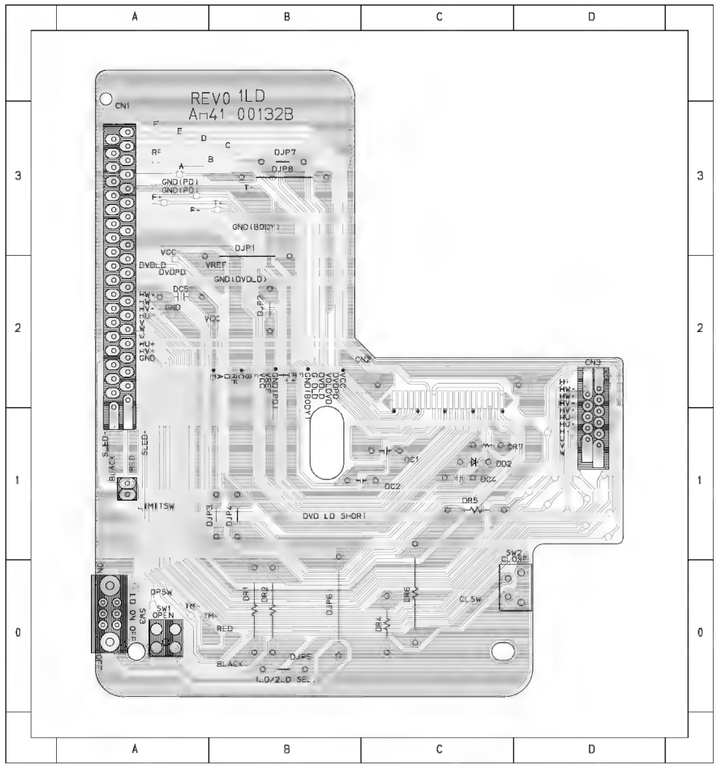



**DVD-611**
**DVD-611B**
**DVD-615**

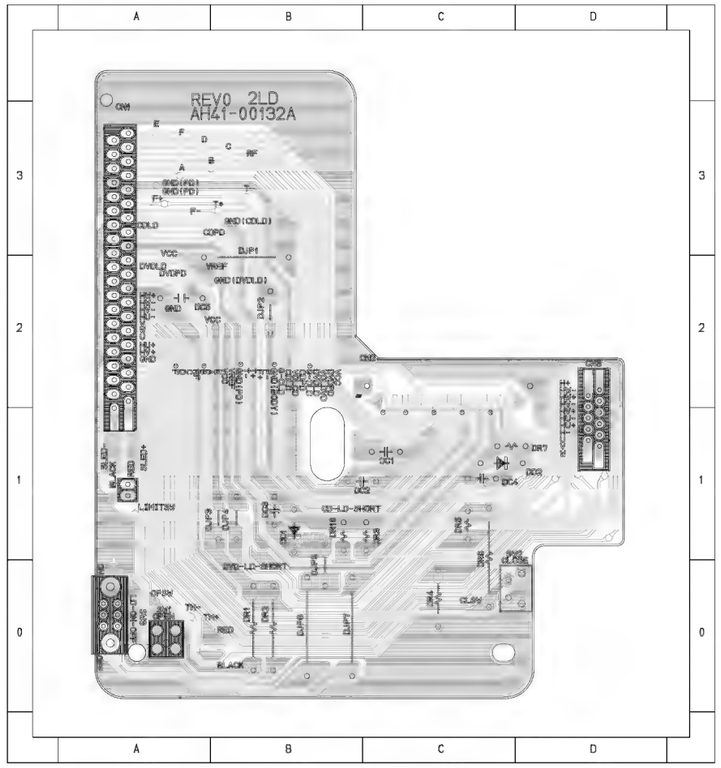



## 10-4 Deck

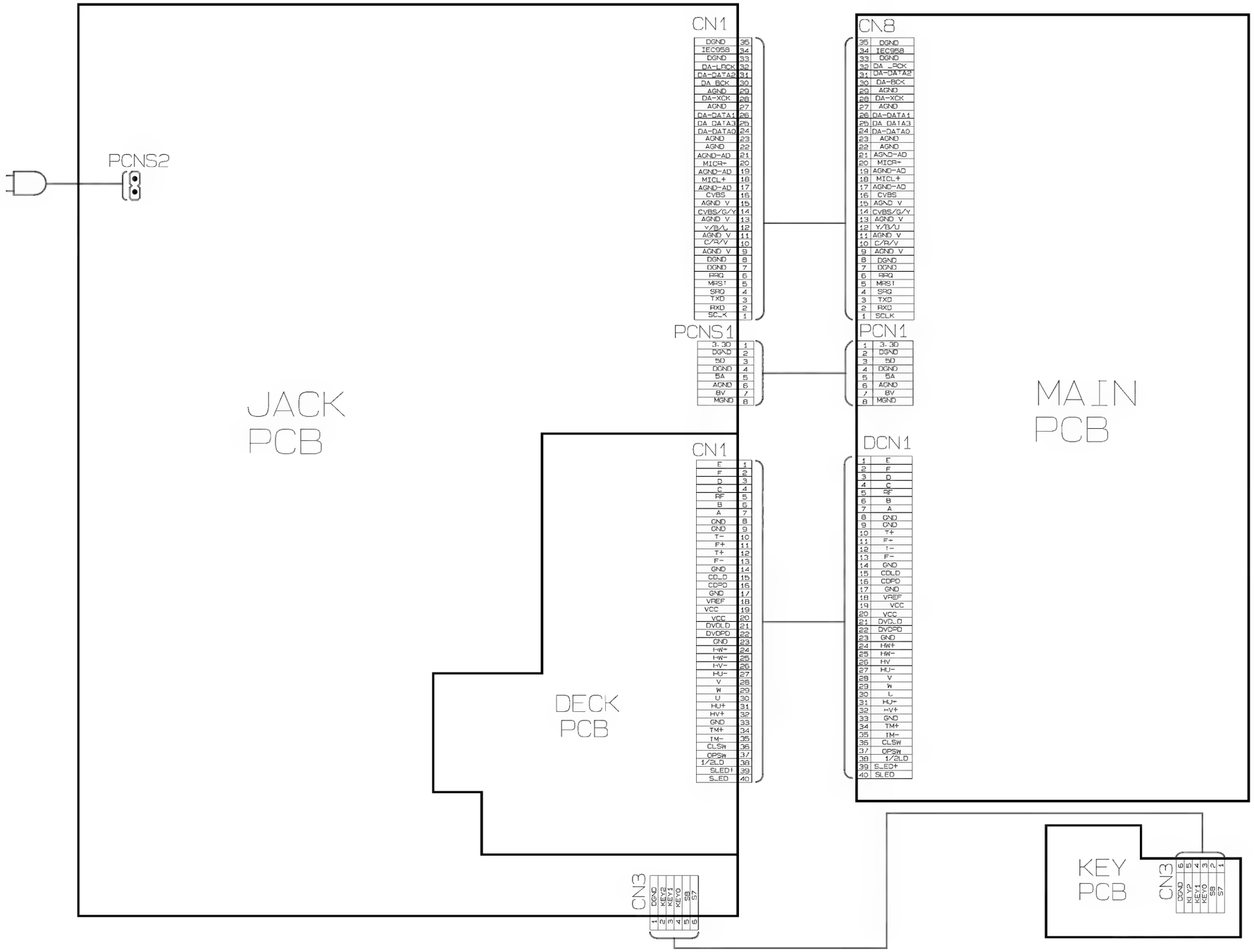
**1LD;**
**DVD-511**




**2LD;**
**DVD-611**
**DVD-611B**
**DVD-615**



## 11. Wiring Diagram



# MEMO

## 12. Schematic Diagrams


12-1 Power ---------- 12-2

12-2 Main-Micom ---------- 12-3

12-3 Servo ---------- 12-4

12-4 Video ---------- 12-5

12-5 Audio ---------- 12-6

12-6 RF ---------- 12-7

12-7 ZiVA (A/V Decoder) ---------- 12-8

12-8 DSP ---------- 12-9

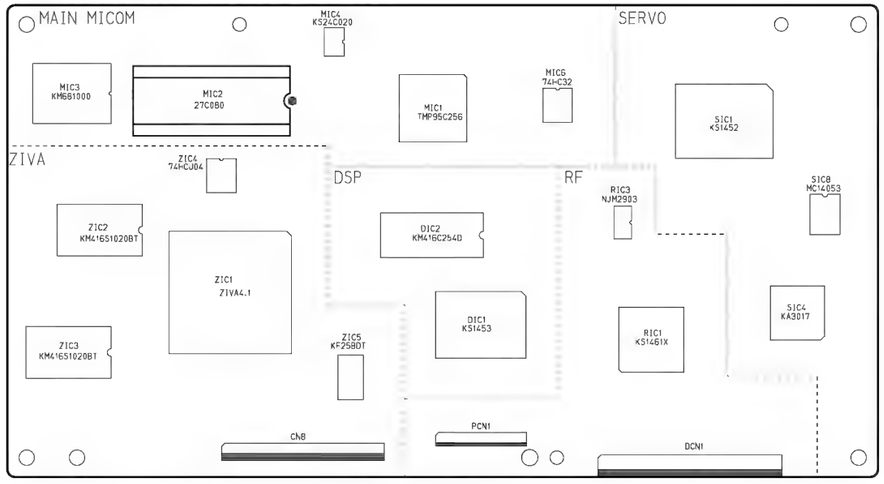
12-9 Front-Micom/VFD Display ---------- 12-10

12-10 Key ---------- 12-11

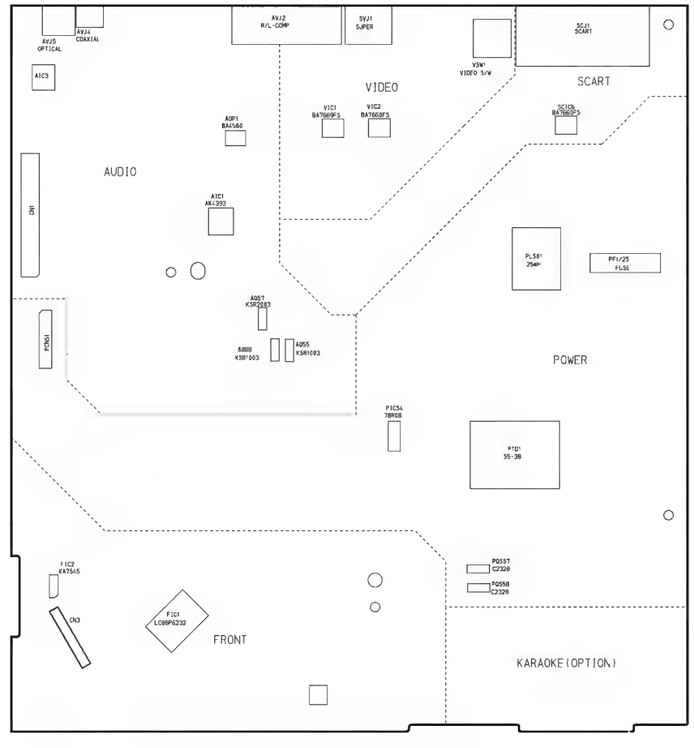
12-11 Deck ---------- 12-12

12-12 Remote Control ---------- 12-13


**Block Identification of PCB**

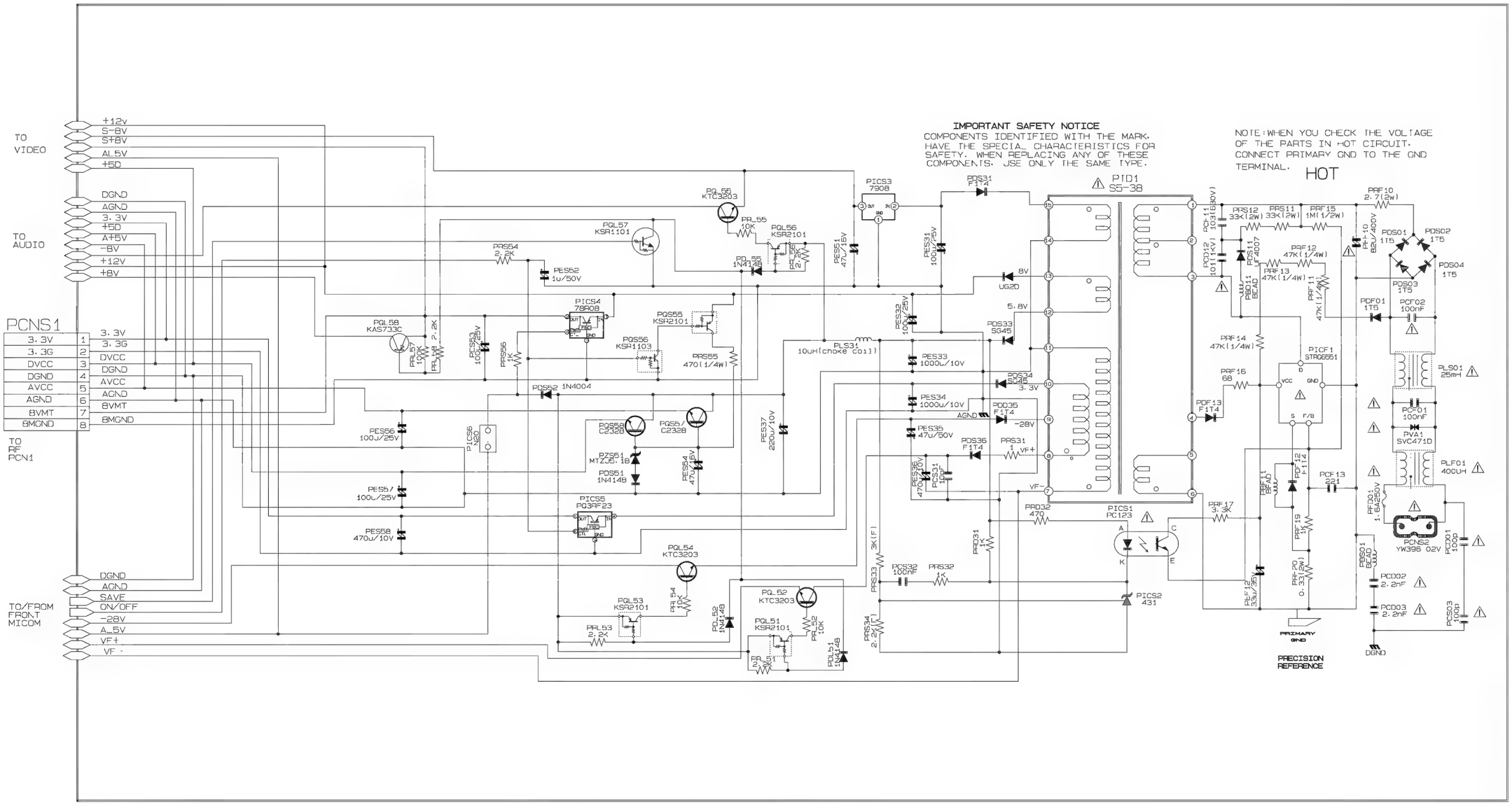



Main PCB (Component Side)

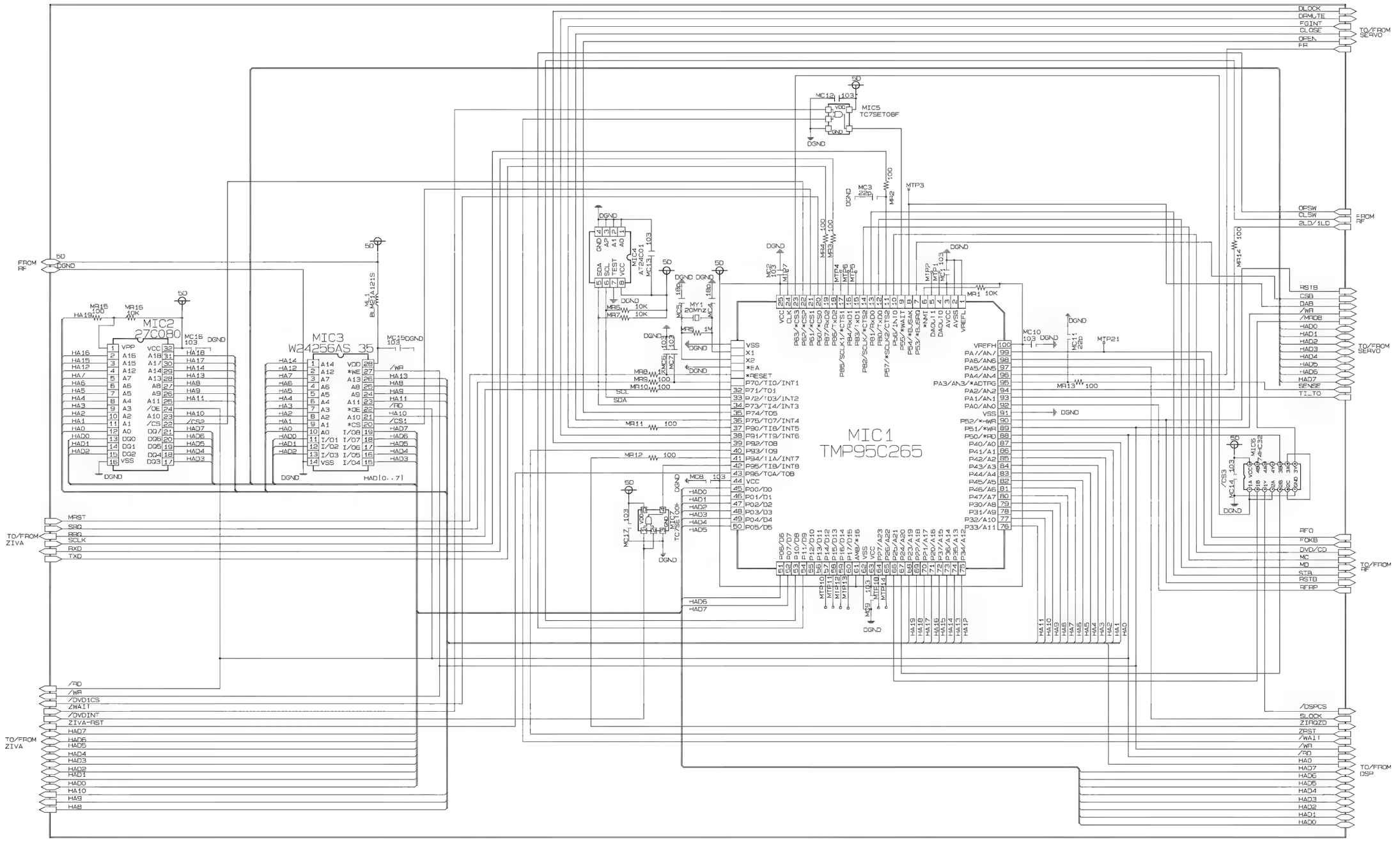



Jack PCB (Conductor Side)

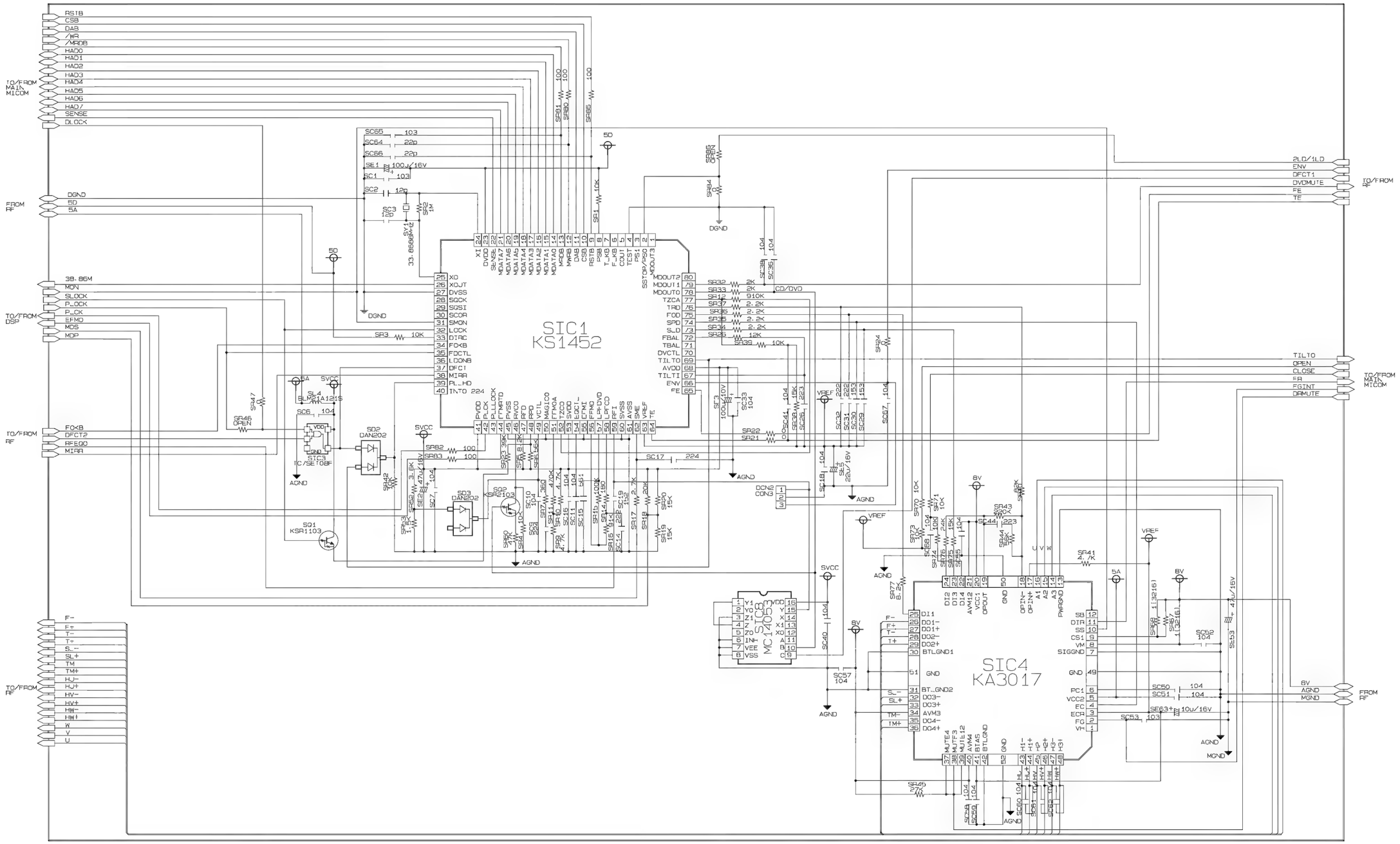
# 12-1 Power


IMPORTANT SAFETY NOTICE
COMPONENTS IDENTIFIED WITH THE MARK. HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS. USE ONLY THE SAME TYPE.
NOTE:WHEN YOU CHECK THE VOLTAGE OF THE PARTS IN HOT CIRCUIT. CONNECT PRIMARY GND TO THE GND TERMINAL.
HOT
TO VIDEO
+12v
S-8V
S+8V
AL_5V
+5D
TO AUDIO
DGND
AGND
3.3V
+5D
A+5V
-8V
+12V
+8V
PCNS1
3.3V
3.3G
DVCC
DGND
AVCC
AGND
8VMT
8MGND
TO RF PCN1
TO/FROM FRONT MICOM
DGND
AGND
SAVE
ON/OFF
-28V
A_5V
VF+
VF-
PID1 S5-38
PICS3 7908
PICS4 78R08
PICS5 PQ3RF23
PICS6 NEO
PICS1 PC123
PICS2 431
PCNS2 YW396 02V
PICF1 STR6651
PQL55 KTC3203
PQL57 KSR1101
PQL56 KSR2101
PQL58 KAS733C
PQS55 KSR2101
PQS56 KSR1103
PQL54 KTC3203
PQL53 KSR2101
PQ_52 KTC3203
PQL51 KSR2101
PQS58 C2328
PQS57 C2328
PDS52 1N4004
PDS51 1N4148
PDL52 1N4148
PDL51 1N4148
PDS31 F14
PDS33 SG45
PDS34 SG45
PDD35 F1T4
PDS36 F1T4
PDS11 FMB-G14S
PDS01 1T5
PDS02 1T5
PDS03 1T5
PDS04 1T5
PDF01 1T5
PDF13 F1T4
PDF11 BFAD
PDF12 F1T4
PDD01 1.6A250V
PDS01 BEAD
PRS55 470(1/4W)
PRS54 2.2K
PRS52 1K
PRS53 2.2K
PRS51 10K
PRS33 3K(F)
PRS32 1K
PRS31 1
PRD32 470
PRD31 1K
PRS12 33K(2W)
PRS11 33K(2W)
PRF15 1M(1/2W)
PRF12 47K(1/4W)
PRF13 47K(1/4W)
PRF11 47K(1/4W)
PRF14 47K(1/4W)
PRF16 68
PRF17 3.3K
PRF19 1K
PRF20 0.33(2W)
PRF10 2.7(2W)
PRF12 33u/35
PCF11 103(630V)
PCD12 101(1KV)
PCF02 100nF
PCF01 100nF
PCF13 221
PCS01 100P
PCD01 100P
PCD02 2.2nF
PCD03 2.2nF
PCS03 100P
PVA1 SVC471D
PLS01 25m-H
PLF01 400UH
PLS31 10uH(choke coil)
PES31 47u/16V
PES32 100u/25V
PES33 1000u/10V
PES34 1000u/10V
PES35 47U/50V
PES36 470u/10V
PES37 220u/10V
PES52 1u/50V
PES53 100u/25V
PES54 47u/16V
PES55 100u/25V
PES56 100u/25V
PES57 100u/25V
PES58 470u/10V
PZS51 MTZJ6.1B
PRL55 10K
PRL56 2.2K
PRL58 10K
PRL54 10K
PRL52 10K
PRL53 2.2K
PRL51 10K
PRL57 2.2K
PRS34 2.2K(F)
PRS36 1K
PRD33 1K
PRD34 1K
PRD35 2.2K
PRD36 2.2K
PRD37 2.2K
PRD38 2.2K
PRD39 2.2K
PRD40 2.2K
PRD41 2.2K
PRD42 2.2K
PRD43 2.2K
PRD44 2.2K
PRD45 2.2K
PRD46 2.2K
PRD47 2.2K
PRD48 2.2K
PRD49 2.2K
PRD50 2.2K
PRD51 2.2K
PRD52 2.2K
PRD53 2.2K
PRD54 2.2K

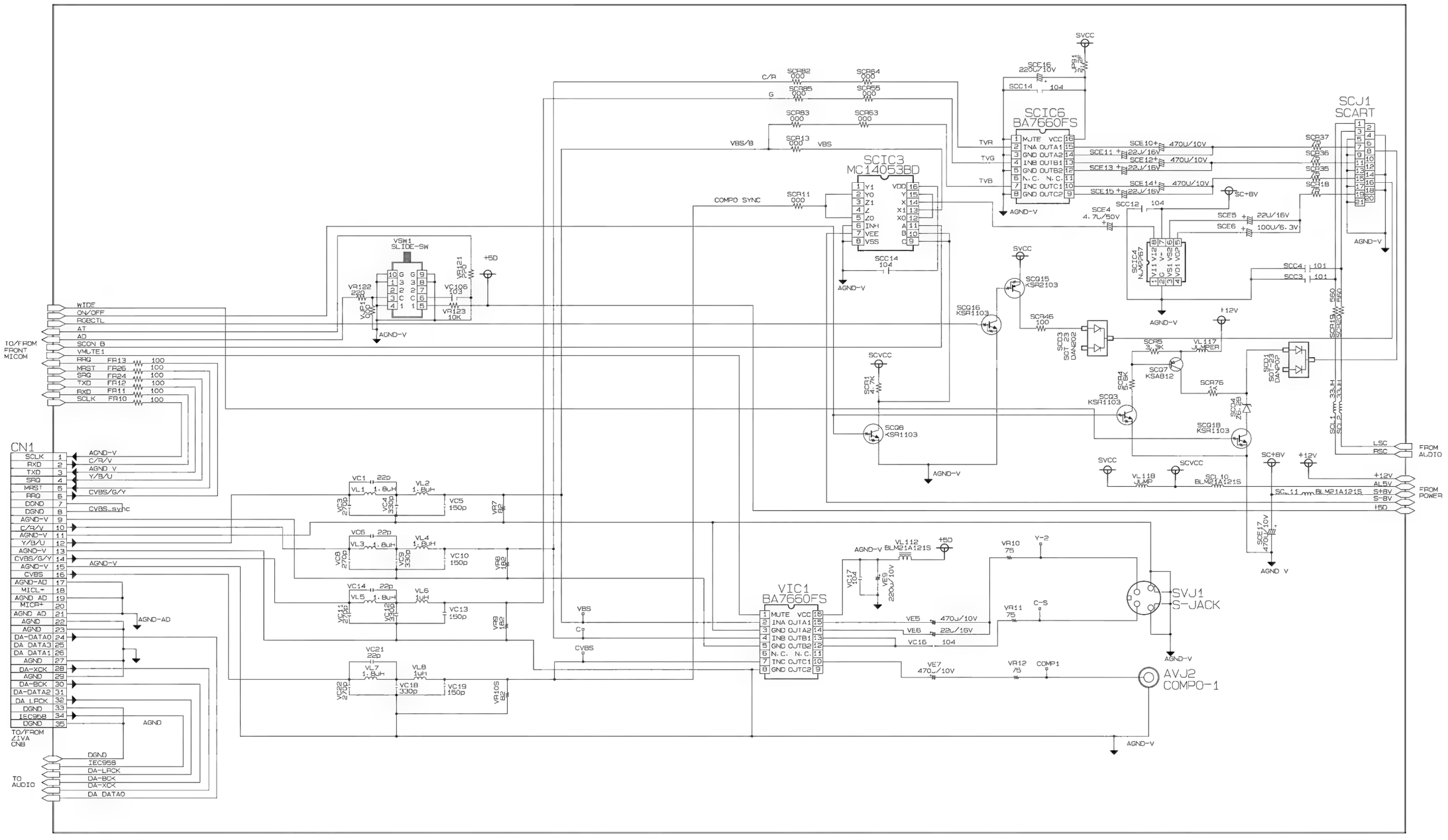
## 12-2 Main-Micom



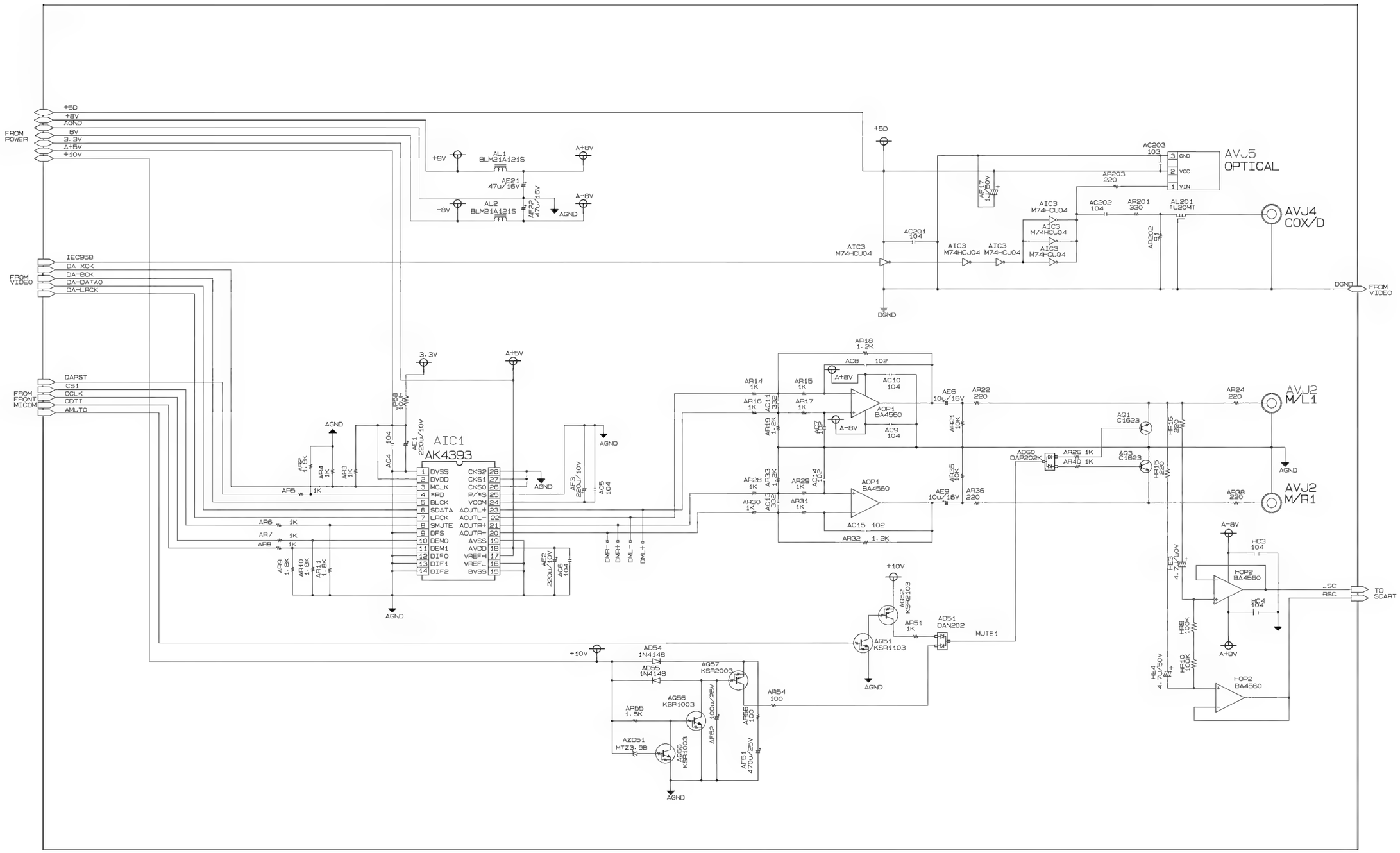
## 12-3 Servo


SIC1
KS1452
SIC4
KA3017
SIC3
MC14053
SQ1
KSR1103
SQ2
KSR2103
SQ3
KSR2103
SD1
DAN202
SD2
DAN202
SD3
DAN202
RSTB
CSB
DAB
/WR
/MRDB
HAD0
HAD1
HAD2
HAD3
HAD4
HAD5
HAD6
HAD7
SENSE
DLOCK
TO/FROM MAIN MICOM
FROM RF
TO/FROM DSP
TO/FROM RF
TO/FROM MAIN MICOM
FROM RF
38.86M
MDN
SLOCK
P_DCK
P_CK
EFMO
MDS
MDP
FOKB
DFCT2
RFEQO
MIRR
F-
F+
T-
T+
S-
SL+
TM
TM+
HJ-
HJ+
HV-
HV+
HW-
HW+
W
V
U
2LD/1LD
ENV
DFCT1
DVDMUTE
FE
TE
TILTO
OPEN
CLOSE
FR
FGINT
DRMUTE
CD/DVD
5D
5A
3V
DGND
AGND
SVCC
VREF
LVW

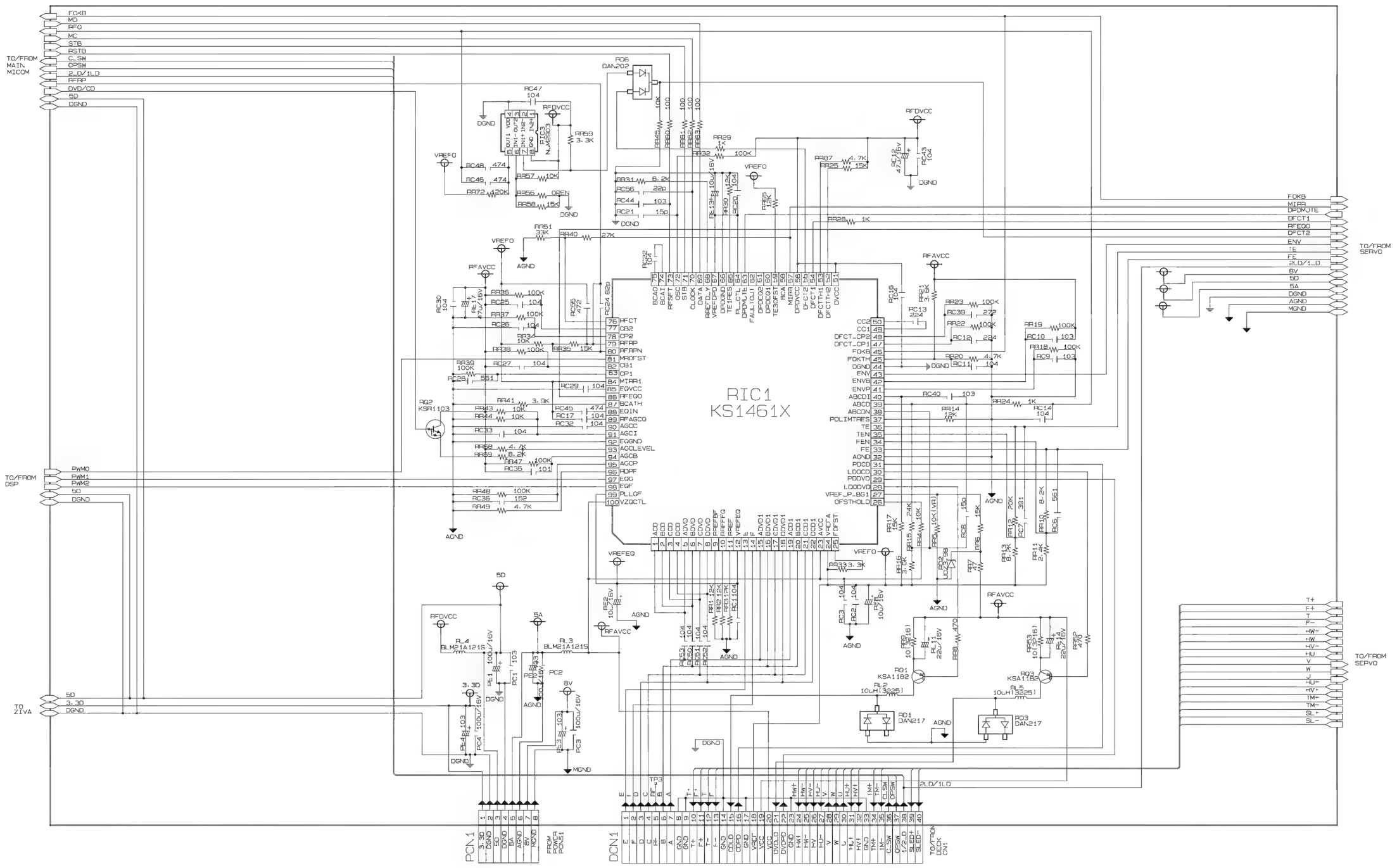
## 12-4 Video


SCIC6
BA7660FS
SCIC3
MC14053BD
VIC1
BA7650FS
SCJ1
SCART
SVJ1
S-JACK
AVJ2
COMPO-1
CN1
VSW1
SLIDE-SW
SVCC
SCVCC
AGND-V
AGND-AD
+5D
+12V
SC+8V
WIDE
ON/OFF
RGBCTL
AT
AD
SCON_B
VMUTE1
RRQ
MRST
SRQ
TXD
RXD
SCLK
IO/FROM FRONT MICOM
TO/FROM ZIVA CNB
TO AUDIO
C/R
G
VBS/B
COMPO SYNC
TVR
TVG
TVB
VBS
C
CVBS
C-S
COMP1
LSC
RSC
FROM AUDIO
FROM POWER
+12V
AL5V
S+8V
S-8V
+5D

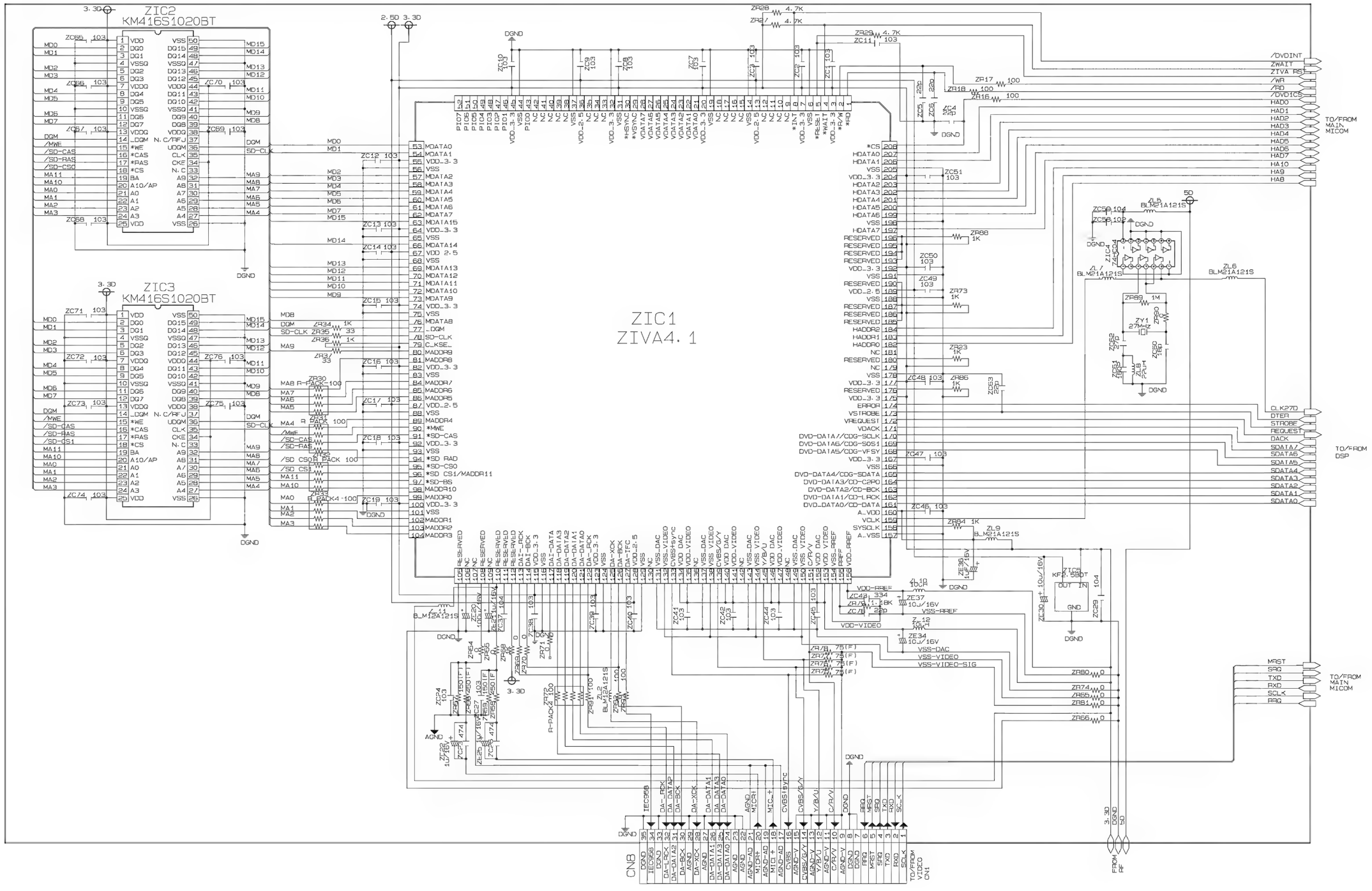
## 12-5 Audio


FROM POWER
+5D
+8V
AGND
-8V
3.3V
A+5V
+10V
AL1 BLM21A121S
AL2 BLM21A121S
AF21 47u/16V
AF22 47u/16V
A+8V
A-8V
AGND
FROM VIDEO
IEC958
DA_XCK
DA-BCK
DA-DATA0
DA-LRCK
FROM FRONT MICOM
DARST
CS1
CCLK
CDTI
AMUTO
AIC1
AK4393
DVSS
DVDD
MC_K
*PD
BLCK
SDATA
LRCK
SMUTE
DFS
DEM0
DEM1
DIF0
DIF1
DIF2
CKSP
CKS1
CKS0
P/*S
VCOM
AOUTL+
AOUTL-
AOUTR+
AOUTR-
AVSS
AVDD
VREFH
VREFL
BVSS
AF1 220u/10V
AF2 220u/10V
AF3 220u/10V
AC1 104
AC2 104
AC3 104
AC4 104
AC5 104
AC6 104
AR1 10K
AR2 1.8K
AR3 1K
AR4 1K
AR5 1K
AR6 1K
AR7 1K
AR8 1K
AR9 1.8K
AR10 1.8K
AR11 1.8K
DMR-
DMR+
DML-
DML+
AIC3 M74HCU04
AC201 104
AF17 1u/50V
AC203 103
AR203 220
AVJ5 OPTICAL
AC202 104
AR201 330
AL201 FL20MT
AVJ4 COX/D
AR202 75
DGND
FROM VIDEO
AR18 1.2K
AC8 102
AC10 104
AR14 1K
AR15 1K
AR16 1K
AR17 1K
AC11 332
AC7 102
AOP1 BA4560
AC9 104
AC15 102
AR32 1.2K
AR19 1.2K
AR21 10K
AC12 332
AC13 332
AR28 1K
AR29 1K
AR30 1K
AR31 1K
AC14 102
AR33 1.2K
AR35 10K
AC5 10u/16V
AR22 220
AR24 220
AVJ2 M/L1
AR36 220
AR38 220
AVJ2 M/R1
AQ1 C1623
AQ3 C1623
AD60 DAP202K
AR26 1K
AR40 1K
AR16 220
AR15 220
AGND
+10V
AQ52 KSR2103
AQ51 KSR1103
AD51 DAN202
AR51 1K
MUTE1
AD54 1N4148
AD55 1N4148
AQ57 KSR2003
AQ56 KSR1003
AR55 1.5K
AR54 100
AR56 100
AZD51 MTZ3.9B
AQ55 KSR1003
AF52 100u/25V
AF51 470u/25V
HC3 104
HC4 104
HC2 4.7u/50V
HC4 4.7u/50V
HOP2 BA4560
HR9 100K
HR10 100K
-SC
RSC
TO SCART

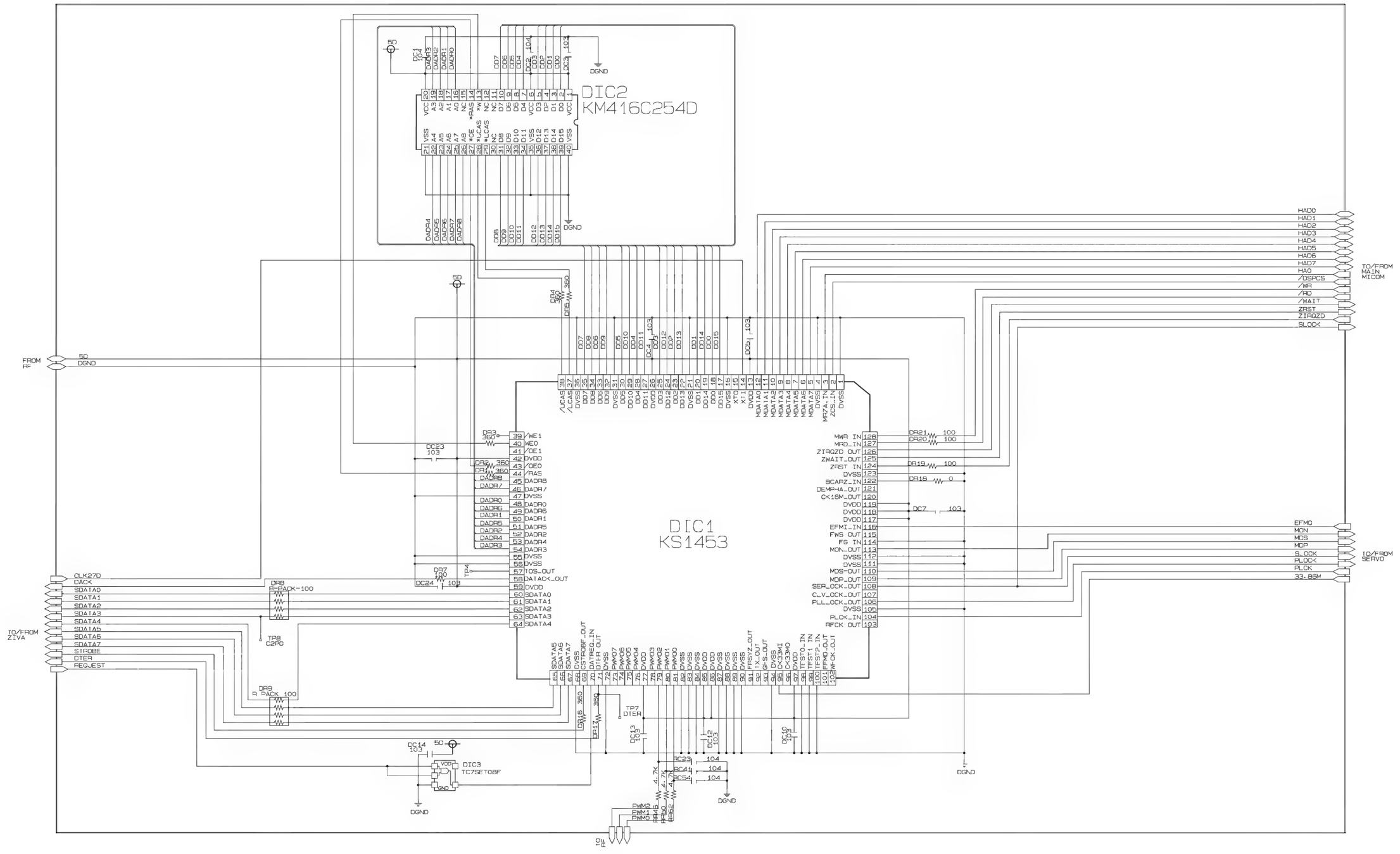
## 12-6 RF


RIC1
KS1461X
TO/FROM MAIN MICOM
TO/FROM DSP
TO ZIVA
TO/FROM SERVO
TO/FROM DECK CN1
FOKB
MD
RFO
MC
STB
RSTB
C_SW
OPSW
2_D/1LD
RFRP
DVD/CD
5D
DGND
PWM0
PWM1
PWM2
3.3D
8V
5A
AGND
MGND
VREFO
VREFEQ
RFDVCC
RFAVCC
PCN1
DCN1

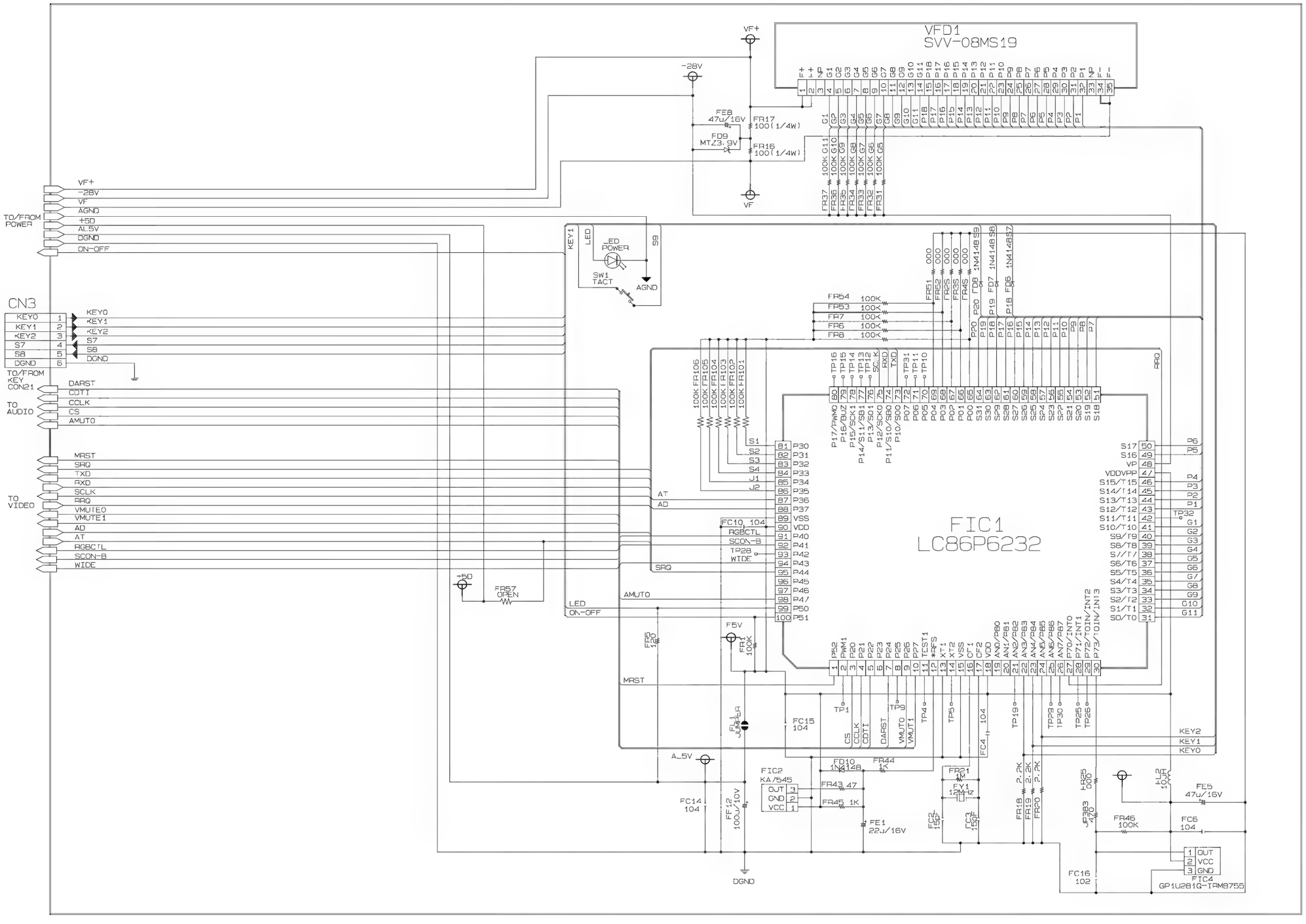
## 12-7 ZiVA (A/V Decoder)



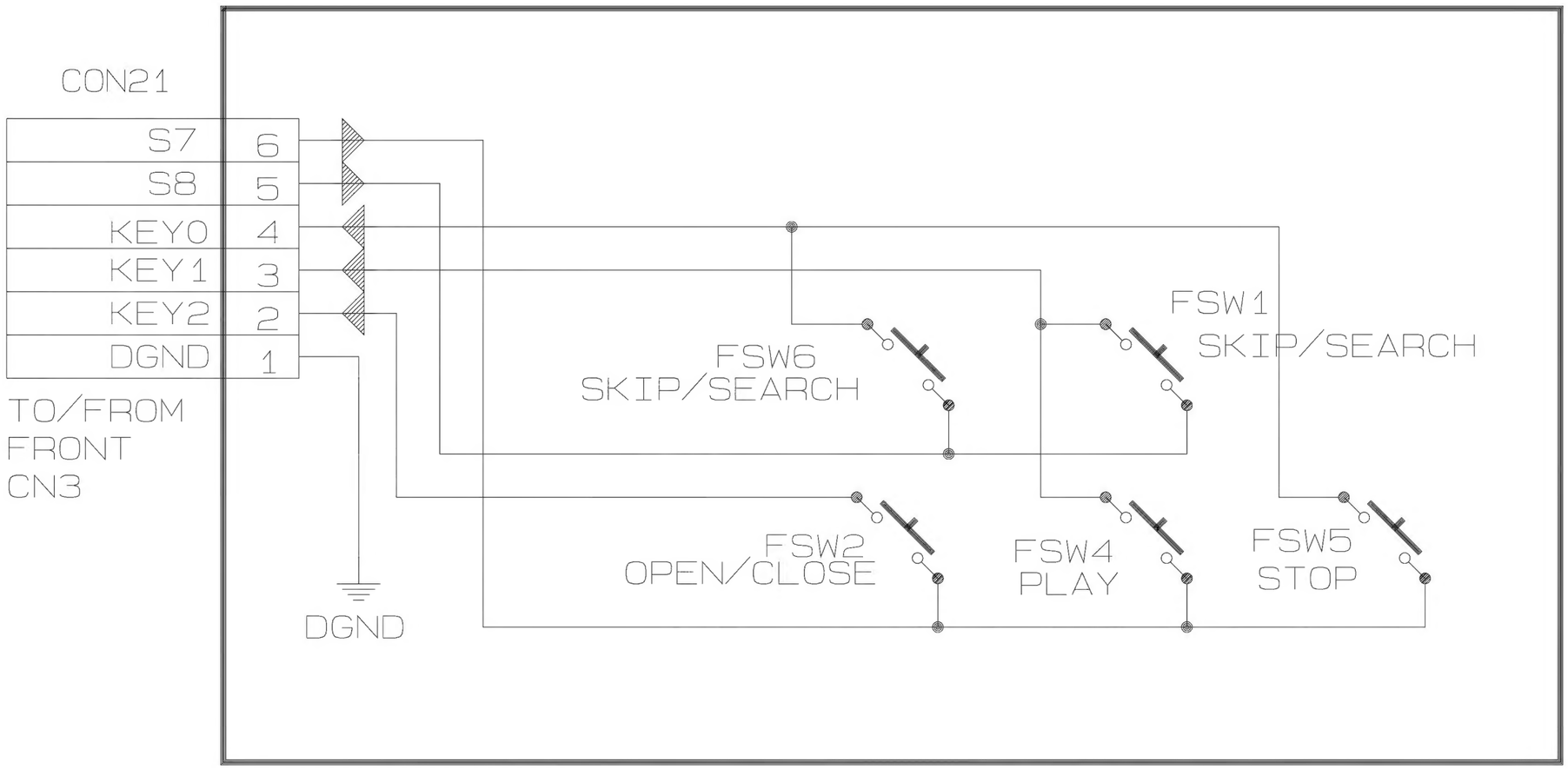
## 12-8 DSP


DIC2
KM416C254D
DIC1
KS1453
DIC3
TC7SET08F
HAD0
HAD1
HAD2
HAD3
HAD4
HAD5
HAD6
HAD7
HA0
/DSPCS
/WR
/RD
/WAIT
ZRST
ZIRQZD
SLOCK
TO/FROM MAIN MICOM
EFMO
MON
MDS
MDP
S_CCK
PLCK
PLCK
33.86M
TO/FROM SERVO
FROM IF
CLK27D
DACK
SDATA0
SDATA1
SDATA2
SDATA3
SDATA4
SDATA5
SDATA6
SDATA7
SIRQBE
DTER
REQUEST
TO/FROM ZIVA
5D
DGND

## 12-9 Front-Micom/VFD Display

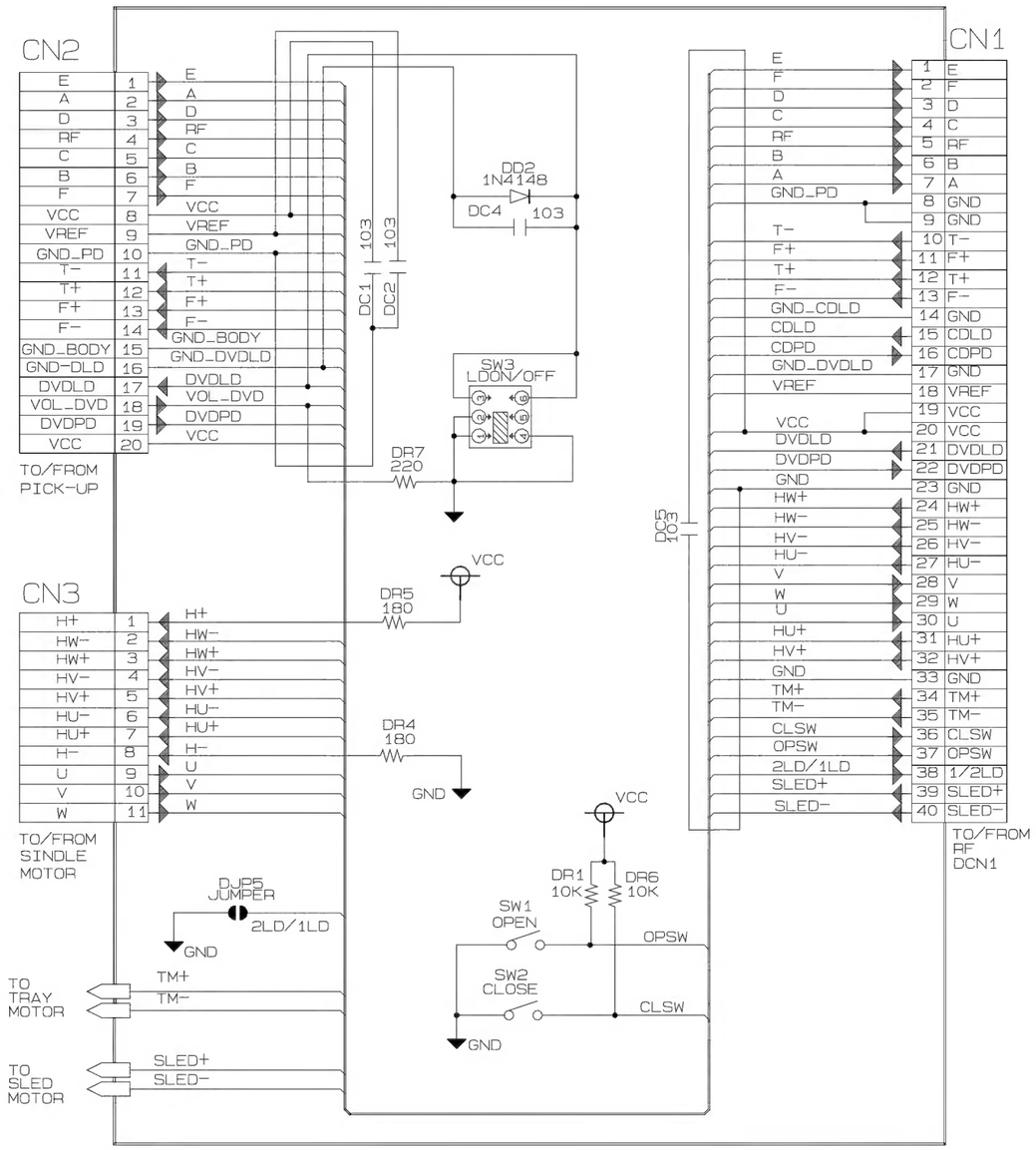


## 12-10 Key

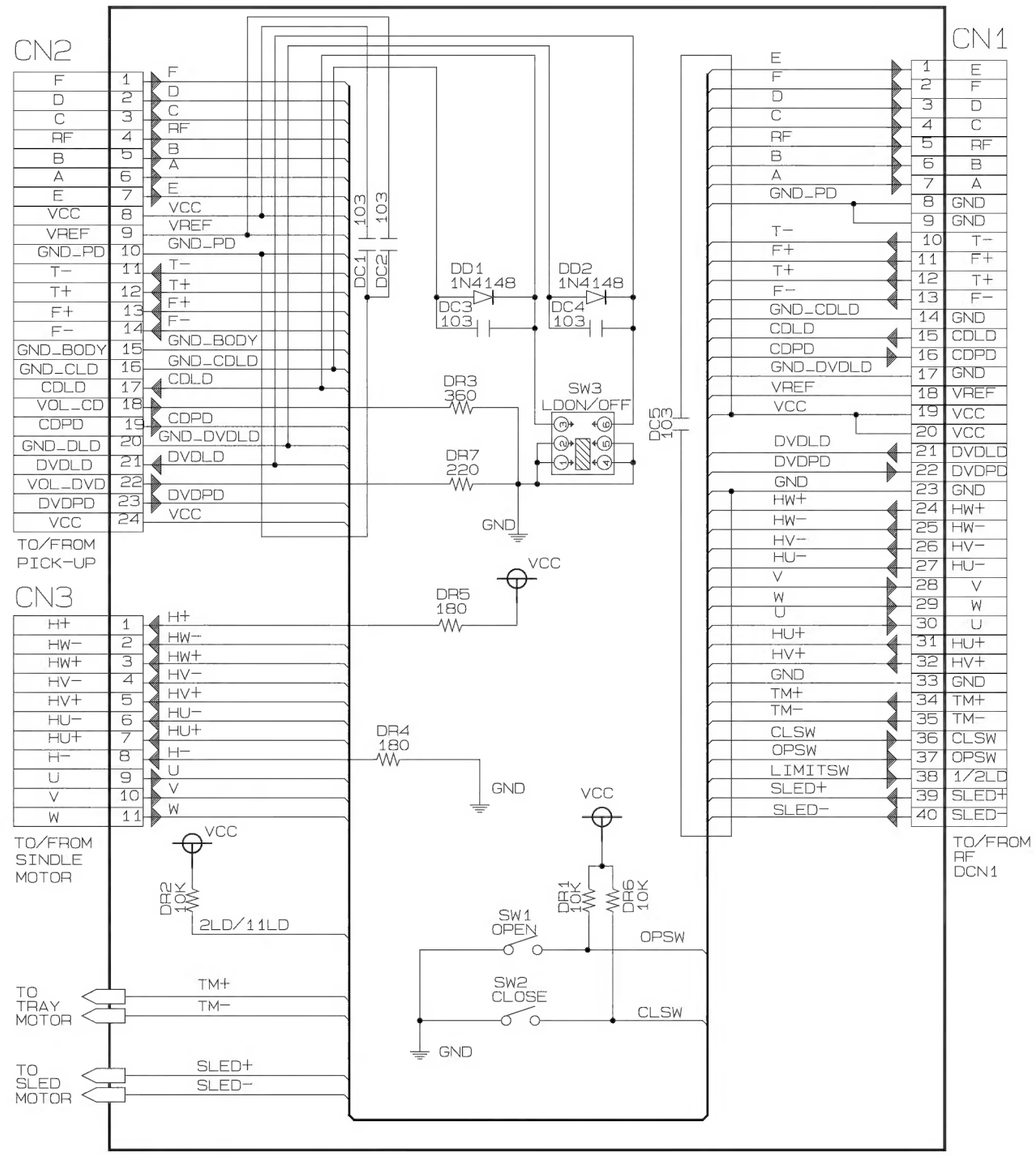

CON21
S7
S8
KEY0
KEY1
KEY2
DGND
6
5
4
3
2
1
TO/FROM
FRONT
CN3
FSW6
SKIP/SEARCH
FSW1
SKIP/SEARCH
FSW2
OPEN/CLOSE
FSW4
PLAY
FSW5
STOP
DGND

## 12-11 Deck

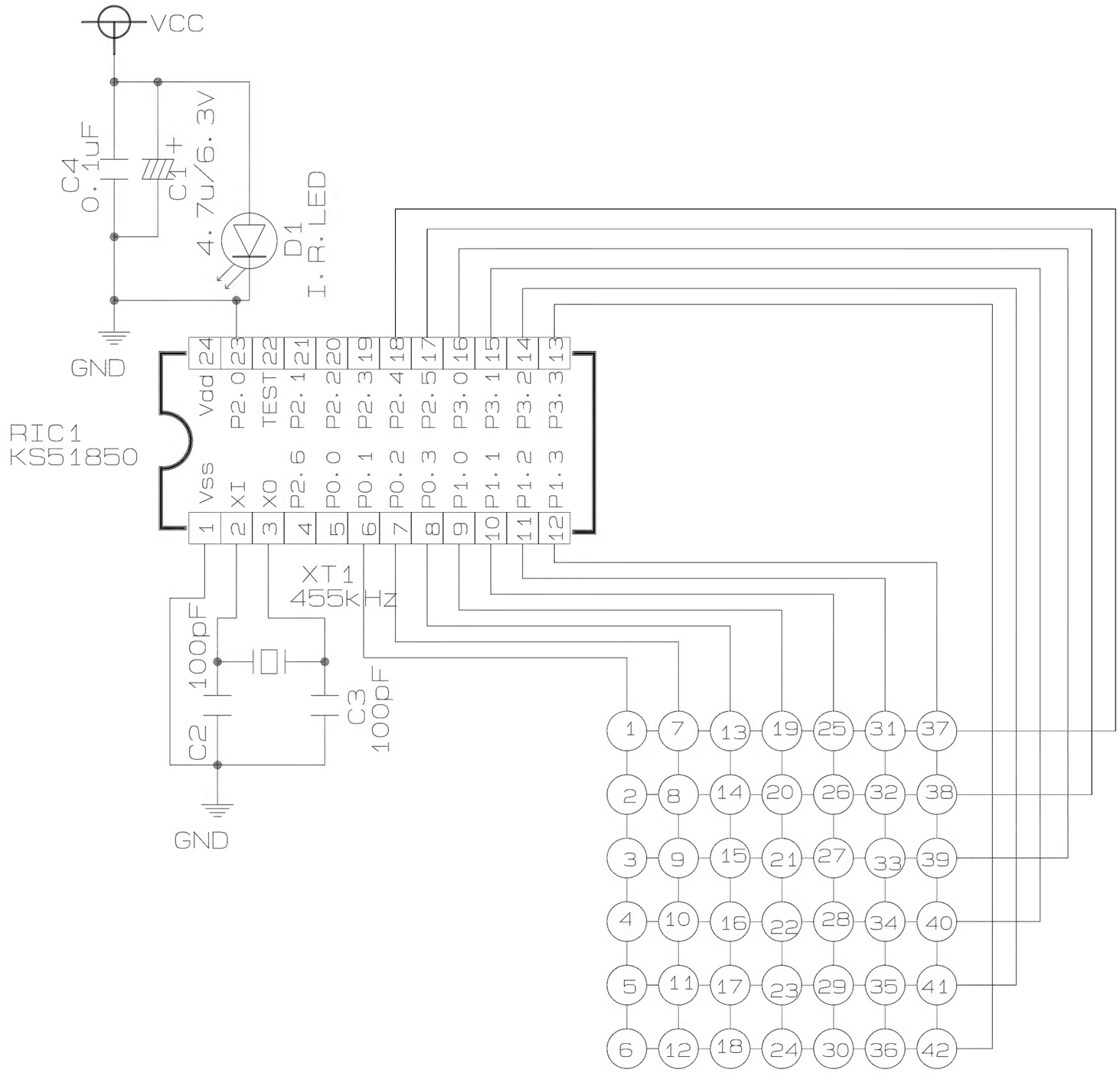
### 1 LD ; DVD-511




### 2 LD ; DVD-611/611B/615



## 12-12 Remote Control



# MEMO